Assessment Done Write:

Using Collaboration to Reculture Teacher Learning

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Submitted in partial fulfillment

of the requirements for the degree of

Master of Education

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Abstract

This study examined the impact that collaborative learning had on the assessment and evaluation of writing practices of a group of teachers as they engaged in a community of learners. The study explored the development of teacher knowledge and perceptions as well as the implementation of effective assessment strategies in writing for students in grades 4 to 8 that could be achieved through collaboration. Teachers' perceptions of the value of collaboration were also embedded within the study. Multiple methods of data collection were used to gather rich and descriptive data. Those methods included interviews, observation, and documentation of meetings and of participants' perceptions of their assessment and evaluation practices. Five preexisting themes describing desired outcomes of change were used to analyze the data. These themes included: knowledge, attitude, skill, aspiration, and behaviour. While it was difficult to identify definitively the degree of learning achieved by the participants, conclusions can be drawn that the participants experienced learning and some change in the areas of knowledge and skill, attitude, aspiration, and behaviour. What was notable was the continued belief on the part of the participants of the value of collaboration as a means of learning.

Acknowledgements

I would like to thank a number of people for their support. Without you, this work would be sitting in a corner collecting dust.

I owe a deep-felt thank you to Dr. Joe Engemann who persevered with me throughout this long drawn process and who did not give up on me even when I was ready to pack it all in. Thank you so much for all your guidance, positive feedback, and numerous pep talks.

Of course none of this research would have been possible without the involvement of Alex, Chris, Kelly, Joey, Sam, Sandy, and Terry. I cannot begin to tell you how much I appreciate your time, commitment, and willingness to go above and beyond your already busy workloads.

To my friends and colleagues, near and far, who provided me with support and encouragement, your interest and sideline cheering helped me to make it to the end.

My family, immediate and extended, continually bolstered me with casual inquiries and gentle nudges, making sure to keep me on track especially when my focus started to drift.

Last but not least, I would like to thank my husband Al for your ongoing encouragement and above all, your patience. No more excuses now; I can start helping out around the house!

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CHAPTER ONE: THE PROBLEM

This is a case study of a group of teachers who participated in a collaborative learning community as a means of examining their assessment and evaluation practices in writing. The study explored the development of teacher knowledge and perceptions as well as the implementation of effective assessment strategies in writing for students in grades 4 to 8 that could be achieved through collaboration. The premise of this study was that the results would enable and encourage teachers to build and to sustain a culture of collaborative practice in order to promote professional growth in their assessment and evaluation practice and to work towards eliminating the culture of isolation that is prevalent in teaching.

Statement of the Problem Situation

Teachers work in a demanding profession, a profession that requires teachers to keep up with changing curricula and current strategies as well as to be accountable to various stakeholders in addition to their day-to-day teaching responsibilities, which include assessment and evaluation of student work. The problem that prompted this study is twofold. Both problems are related to the mounting pressure for educational accountability as has been evidenced by the increasing use of standardized testing. The first issue at stake is that teachers are not sufficiently prepared in their assessment and evaluation practices to address new understandings of assessment and evaluation. To put it more succinctly, they are not assessment literate. Swaffield and Dudley (2003) define assessment literacy as an "understanding of the issues, including the possibilities and limitations, of data about pupils' attainment and performance" (p. 9). What is problematic with teachers' assessment literacy is that they have not changed their practices to meet

new developments in assessment and evaluation, and many are still using outdated practices (Stiggins, 2004). Teachers can spend up to 50% of their professional time on assessment and evaluation (Daniel & King, 1998), and yet training in effective assessment and evaluation practices is not sufficient (Bol, Stephenson, O'Connell, & Nunnery, 1998; Cizek, Fitzgerald, & Rachor, 1996; Daniel & King, 1998; Stiggins, 1999). To further compound this problem, teachers have not been provided with adequate opportunities or resources to develop their assessment and evaluation practices. This situation brings us to the second problem, which is the relative isolation of teachers. Teachers work alone in their classrooms, with little opportunity to collaborate with colleagues. Teachers learn as individuals too, when they attend workshops for the purposes of professional development. The problem is that teachers working and learning in isolation is not conducive to sparking collective change that will improve the practice of all teachers and will benefit the learning of all students (Hirsch, 2009).

The purpose of this study is to determine how a collaborative environment can contribute to the development of assessment and evaluation practices of a group of teachers. In order for teachers to become both literate and competent in assessment and evaluation, it is important that they find ways to work together to learn about and to share their knowledge about assessment and evaluation practices. With the degree and complexity of change that is being demanded today, it is not possible to develop proficiency in assessment literacy alone. In this age of educational reform and accountability, teachers need to learn how to work collaboratively to ensure that their assessment and evaluation practices are aligned with their instructional practices.

Background of the Problem

Teachers work in isolation and have worked in isolation since the beginning of formal education (Hargreaves & Fullan, 2000). Isolation is a culture that developed with the inception of the first one-room schoolhouse, if not before, and it continues to permeate the teaching profession. Isolation in teaching can be defined as a lack of interaction among teachers (Bakkenes, de Brabander, & Imants, 1999). The isolation of teachers is evidenced by teachers who work alone in self-classrooms, separated from colleagues. Different grade level and discipline assignments, particularly at the elementary school level, further contribute to the isolation of individual teachers. Location of classrooms and use of portable classrooms also prevent teachers from collaborative interactions. Additionally, time for teachers to converse either socially or professionally during the school day is limited, and collaborative opportunities outside of teaching time are rare (Huffman & Kalnin, 2003). Not all isolation, however, is a result of the previous conditions; isolation can also be self-imposed. Some teachers choose to distance themselves from their colleagues; in fact, they prefer to work alone (Bakkenes et al.; Joyce, 2004). The reality is that the autonomous nature of the job itself, with many teachers working alone in self-contained classrooms, encourages teachers to work independently as opposed to collaboratively (Bakkenes et al.). This point is corroborated by Grossman, Wineburg, and Woolworth (2001), who questioned the likelihood of teachers who enter the profession with the intent to work with other adults. After all, there is an element of safety in being able to close one's classroom door when faced with dissimilar beliefs or practices. Indeed, attempted dissolution of isolation may cause a whole set of other problems according to Grossman et al., who state that "reducing

isolation can unleash workplace conflicts that were, ironically, kept in check by the very isolation in which teachers work" (p. 991). There are, however, more persuasive reasons why isolation should be eliminated.

Teaching responsibilities have changed over the years and continue to change as we progress farther into the new millennium. Introduction of new curricula, increased demands for accountability through standardized testing and teacher performance appraisals, new initiatives in teaching, time constraints, additional responsibilities, closer scrutiny from interested stakeholders—such as parents, administration, and government (Florio-Ruane & Raphael, 2001), and lack of resources are among the realities of the job. It should come as no surprise that teachers are feeling overloaded and stressed out as they struggle to stay abreast of all new trends and current situations (Butler, Novak Lauscher, Jarvis-Selinger, & Beckingham, 2004, Grossman et al., 2001). It truly has become a monumental task for individual teachers to keep up with current demands and changes.

Teachers in Ontario have seen rapid change in curricular reform in the last 15 years, thanks to the visions of three separate political parties. *The Common Curriculum: Policies and Outcomes (Grades 1-9),* introduced in 1995 by the New Democratic Party, was replaced by the Conservative Party's *The Ontario Curriculum* for Language, Grades 1-8, in 1997. The Language Curriculum was then revised and replaced in 2006 by the presiding Liberal Party. The overriding purpose of these changes was to raise standards of achievement and to develop consistency in expectations. Interestingly enough, however, teachers were not afforded professional learning opportunities to become well versed in the first two curriculum versions (Winter & McEachern, 2001), further compounding teachers' feelings of inadequacy and anxiety. By the time the third version

of the Language Curriculum was published in 2006, teachers were finally afforded the opportunity to become familiar with the revised curriculum.

If we look specifically at the assessment and evaluation of Language in the junior and intermediate divisions, teachers are expected to be familiar with new and mandated assessment practices such as performance-based assessment, Developmental Reading Assessment (DRA), Education Quality and Accountability Office (EQAO) tests, and additional Ministry of Education documents such as *Literacy for Learning: The Report of the Expert Panel on Literacy in Grades 4 to 6 in Ontario, 2004*, and *Think Literacy: Cross Curricular Approaches, Grades 7-12*. Teachers' already overburdened workdays do not afford them the time to learn about all these initiatives on their own. There are board-initiated inservices and professional development activities; some are delivered within the school day and some are offered as optional workshops at the end of the day. One problem is that inservices offered during the workday are not accessible to all teachers, and after-school workshops are not practical for all teachers. Additionally, traditional professional development models, such as one-shot workshops, may not be the most effective means of implementing change and improvement in teachers' practices. What many teachers are left with is on-the-job learning about assessment practices. With the isolated nature of the teaching profession, it may be difficult for teachers to know if their assessment practices are effective. Yet, there are many teachers who are knowledgeable about various aspects of assessment who are willing to share their knowledge and who are eager to learn more. If collaboration were to be encouraged and practiced, the implications that might have on teaching practices are immeasurable.

The depth of knowledge and experience that is available from the communal well of teachers is a vital resource that has not been fully explored or exploited. If we accept the current concept that reform in education is essential (Hargreaves & Fullan, 2000), that teachers must rethink and reevaluate the way they work, then collaboration is instrumental to making those changes. Yet, there is also reluctance to enter into collaborative relationships. Teachers are often hesitant to approach other teachers for assistance for fear that they will be seen as incompetent, that they will deplete their own resources by sharing with others, that they will lose their autonomy, or that their ideas will be criticized or will conflict with the ideas of others (Little, 1990). Sometimes it is not so much that teachers do not want to venture into collaborative relationships but that lack of time hampers the opportunity to collaborate.

One must also keep in mind that there are drawbacks to teacher collaboration as well as rewards. Collaboration cannot be classified as unequivocally good. In his study, Johnson (2003) found that a minority of teachers identified loss of autonomy, increased workload, and competition among teachers for access to resources as detriments to engaging in collaboration.

The reality is that in this day and age, with the demands on teachers continuing to become more complex, all teachers will require assistance at one time or another (Hargreaves & Fullan, 2000). Collaboration can be beneficial for teachers of all years of experience and all levels of expertise. Grossman et al. (2001) identify peer conversation as being essential to improving the practice of all teachers. A word of caution regarding collaboration must be noted, however; mandated collaboration will not work (Bainer & Didham, 1994). Relationships that are imposed by administration are doomed to failure

more often than not because those relationships are forced upon teachers for a purpose that may not be their own and may not be relevant for them. Collaboration, if it is to succeed, must be willingly entered into by teachers who have a common goal and a desire to work with each other. Teachers must be free to decide if, when, and how they want to collaborate with others. Effective collaboration must take into account teachers' working styles and personalities, teachers' already demanding and time-consuming workloads, and the actual grouping of teachers. If teachers are given the opportunity to work collaboratively, then not only will they benefit from each others' knowledge and experience, but if they are successful in making collaboration, rather than isolation accepted teaching practice, they also just might be able to change the culture of teaching.

Purpose of the Study

This study was designed to examine teachers' development in understanding and implementing effective assessment and evaluation of writing practices and teachers' attitudes regarding the efficacy of collaboration through participation in a community of learners. The reason for this study arose from the need to keep teachers informed of current assessment and evaluation of writing strategies and to provide them with a means of learning about and implementing effective assessment and evaluation of writing initiatives. The study used a collaborative learning environment as a means of exploring the impact of collaboration on teachers' assessment and evaluation of writing perceptions and practices.

As this study used a model of a community of learners as a means of exploring assessment and evaluation of writing issues, I also explored the efficacy of the model as the members of the group worked through the collaborative process. It was my hope that

successful implementation of the collaborative process would reduce teacher feelings of isolation and begin to build a more collegial and supportive culture in teaching.

Objectives

This study investigated collaborative processes and the effect of collaboration on assessment and evaluation of writing practices. The following two questions were addressed as the study progressed:

1. How do teachers' knowledge, attitude, skill, aspiration, and behaviour about assessment and evaluation develop or change as a result of collaboration in a school-based learning group?
2. What are teachers' perceptions of the effectiveness of a collaborative school-based learning group as a means of professional growth?

Rationale

With an increasing demand for educational change based on accountability and high standards for student achievement (Winter & McEachern, 2001), development of teacher learning and practice has come under close scrutiny. For many years, on-the-job teacher learning has focused on knowledge acquisition and skill development of the individual teacher as gained through workshops and courses. These methods of development, however, have been perceived to be ineffective in bringing about growth to teaching practice (Fullan, 2007). The far-reaching goals and expectations of educational reform demand a change in the way that professional development is delivered, a way that may very well have an impact on the culture of teaching.

Recent research promotes the implementation of teacher learning communities as a more effective means of enhancing teacher knowledge and practice (Fullan, 2007).

Fullan promotes the establishment of collaborative forms of teacher learning as a means of developing and maintaining assessment literacy. As teachers are being required to be more accountable, assessment literacy has become a focus for professional development (Popham, 2009). Popham distinguishes between classroom assessment and accountability assessment, with the former referring to classroom measures of what students know and are able to do, while the latter refers to politically driven standardized tests that are used to establish a benchmark for achievement. While accountability assessment is an essential component of a teacher's assessment literacy, this study was designed to examine classroom assessment, and so all further references to assessment will pertain to classroom assessment. Classroom assessment is a term that requires elucidation. Within the classroom, teachers are expected to employ formative assessment as well as summative evaluation. In the document, *Literacy for Learning: The Report of the Expert Panel on Literacy in Grades 4 to 6 in Ontario, 2004*, a clear distinction is made between the terms assessment and evaluation. Assessment is described as the process of gathering and using information about a student's knowledge and skills. This information is gathered before, during, and after learning and is used to inform instruction to meet each student's needs. On the other hand, evaluation draws upon the teacher's professional judgement to analyze a collection of assessment information in order to assign an achievement level to each individual student. Teachers who are assessment literate are better able to make good decisions about the strategies they use in their class as well as to ensure that their assessment and evaluation practices are linked to their instructional practices (Popham).

The goal of this study was to encourage and to develop a culture of collaboration by having teachers work together co-operatively to learn from each other and to develop effective assessment and evaluation practices. With the new initiatives and curricula that have been introduced in recent years, it has become increasingly important for teachers to take control of their own professional learning and to work together to learn how to effectively implement them.

Theoretical Framework

This research is founded on the premise that collaboration helps teachers to learn and that learning is a process of change. This premise can be separated into two conceptual models. The first concept is that learning is dependent upon social participation. Teacher collaboration allows teachers the opportunity to build on each other's knowledge and experience, to engage in dialogue and inquiry, and to develop shared understandings and practice (Niesz, 2007). The professional learning that occurs as a result of collaboration may enable teachers to develop or to change their teaching behaviours, which is a necessary component of professional development if the goal is to improve the learning of students (Guskey, 2002). The second model conceptualizes the potential for learning as teachers engage in professional development to change their practices. I combined the collaborative learning model with a professional development model to frame this study in order to investigate how collaborative learning affects the ability of teachers to change their behaviours.

Learning as a Social Construct

Learning framed within a social construct was conceptualized by Jean Lave and Etienne Wenger in their theory of communities of practice. Wenger, McDermott, and

Snyder (2002) define a community of practice (COP) as a group "of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (p. 4). According to Wenger (n.d.), COPs can exist in any organization and in fact exist all around us in our everyday lives, at work, at home, at school, and even in our leisure activities. What sets a COP apart is the learning that takes place as a result of social interaction.

Wenger et al.'s (2002) social theory of learning is founded on three structural components: domain, community, and practice. The domain defines the identity of the community; this identity is bounded by a set of shared issues or concerns. It is this common ground, this common set of issues or problems, that establishes the existence of the community; without it, the community remains a group of people with similar interests but without a focus for growth. The domain is more than sharing an interest; it involves commitment on the part of its members to contribute to the advancement of the community's knowledge, and it provides the community members with purpose and direction for their learning. The domain is like a living organism; it evolves with the community. By the same token, a community with a domain that is not relevant to or that does not motivate its members will not succeed.

The second component, community, refers to the relationships among the community members. Regular interactions among group members on issues important to the domain are essential to developing shared understanding of knowledge and practice. The development of relationships and trust among the group members is an integral component of the community's growth and allows the participants to learn from one another and to build a sense of kinship. The attempt to develop a strong community is not

without perils along the way. Part of the development of community includes learning to deal with diversity among members and using that diversity to strengthen the productivity of the community (Wenger et al., 2002).

The development of a shared practice is the final component of Wenger et al.'s (2002) COP model. Community members need to pool their own knowledge and expertise in order to establish a common foundation. A COP goes beyond a sharing of interest; its members work together to create common knowledge, skills, and experiences. The goal of the community is to integrate members' existing knowledge with new knowledge as the practice of the community evolves. It is this shared practice that enables the community members to be effective in their domain. Domain, community, and practice together form the foundation of communities of practice, and when they are developed in concert with one another, a community is better able to keep up with and adapt to change.

This is not to say that there is not a downside to COPs; in fact, they are not infallible. Wenger et al. (2002) caution potential practitioners about the foibles of the human element that can cause the downfall of a community of practice. Care must be taken to ensure that domain does not become so entrenched within the control of the community members that others outside of the community are excluded or that those members begin to see themselves as the sole experts of their domain. The power of the community itself can be problematic in how community members interact with each other and with those outside of the community. The sense of belonging should not be exclusive to community members only, nor should it influence the actions of the community members. Finally, practice, too, is susceptible to faltering. Communities can

become so caught up in the development of their practice that they become narrow-minded in their focus, unwilling or unable to consider alternatives. These shortcomings, however, are not insurmountable. Having an understanding of the weaknesses of communities of practice will enable the participants of a COP to use those potential pitfalls to their own advantage.

Wenger et al.'s (2002) theory of social learning is directly applicable to a group of teachers who work together to inform and to improve their practices. Using the COP framework as the foundation for teacher professional development provides an opportunity to deepen our understanding of teacher learning in a social setting. Learning is not something that happens to us and then ends; instead, learning is something in which we actively engage on a regular basis and which is sustainable over time. Collaboration has begun to gain widespread acceptance among teachers who are seeking alternative methods of professional development (Lefever-Davis, Wilson, Moore, Kent, & Hopkins, 2003). Little (cited in Schmoker, 2004) states that "school improvement is most surely and thoroughly achieved when teachers engage in frequent, continuous and increasingly concrete and precise talk about teaching practice" (p. 430). The teachers direct their own learning and achieve personal goals through interaction with other teachers.

An example of COPs in education can be seen in action with the emergence of Professional Learning Communities (PLCs). In the Ontario Ministry of Education document, *Education for All: The Report of the Expert Panel on Literacy and Numeracy Instruction for Students with Special Education Needs, Kindergarten to Grade 6, 2005*, a PLC is defined as "a shared vision for running a school in which everyone can make a contribution, and staff are encouraged to collectively undertake activities and reflection in

order to constantly improve their students' performance" (p. 53). Richard Dufour, who is an acknowledged expert in the field of PLCs, believes in the power of PLCs to bring about educational reform. PLCs are founded on three principles: a focus on learning as opposed to teaching, the importance of teacher collaboration, and a commitment to results (Dufour, 2004). When teachers focus on the learning of students instead of on the teaching, then they begin to take a closer look at effective practices that will ensure the success of all students. What becomes important is the learning of the students, not the teaching of the content. In order to achieve whole-school learning, the teachers must work as a team to examine, to question, and to improve practice. Commitment to results is the component that demonstrates the effectiveness of a PLC. The development of common assessments and analysis of data enables teachers to work together to focus on the improvement of all students. The appeal of collaborative models such as professional learning communities is that they provide teachers with the opportunity to engage in prolonged professional dialogue while building a sense of community in a career that is known for its isolation, and they allow for a sustained means of professional growth.

Learning and Change

Killion (2008b) explains that learning is connected to change and that the desired outcomes of professional learning for teachers are changes in knowledge, attitude, skill, aspiration, and behaviour, which she coins as KASAB. Changes in these areas for the teacher may result in improved student achievement, which is the final intended outcome of any professional development. In order to better understand this model, the meanings of the five types of change must be clarified. Killion explains that knowledge encompasses the theoretical information and research in which teachers may gain

understanding as well as knowledge that is more practical. Englert and Tarrant (1995) add to that definition, distinguishing theoretical knowledge as ways of thinking and practical knowledge as ways of doing. They elaborate that both types of knowledge must be addressed and intertwined in order for teachers to be able to make significant and lasting changes to their practices. Attitude is an ambiguous term, and in terms of Killion's definition, does not reconcile with other definitions. Killion describes attitude as a teacher's beliefs about the value of information and strategies. Elsewhere in literature, attitude and beliefs are separated and viewed as two different terms. For the purpose of this study, I have applied Killion's definition of attitude and have used attitude and beliefs interchangeably. The remaining terms are less dubious, and I have continued to use Killion's definitions. Skill is ascribed to how the knowledge is applied; aspiration is a teacher's motivation to adopt or to engage in a specific strategy; and behaviour refers to the consistent application of knowledge and skills learned by a teacher. When change that is significant and sustained happens in these five areas, then improvement will occur in student achievement.

All types of change, however, are not equal. Killion (2008a) further categorizes knowledge as informational learning or demonstrative learning, skill as operational or procedural learning, and attitude and aspiration as transformational learning. Informational or demonstrative learning focuses on what the learner knows about, while operational or procedural learning is directed at what the learner knows how to do. Killion asserts that traditional forms of professional development are often ineffective because they concentrate on these forms of learning. Transformational learning, on the other hand, focuses on the beliefs and motivation of the learner, which is more conducive

to profound learning and fosters change. Killion defines transformational learning as the desired outcome of professional development because it enables teachers to go beyond knowledge acquisition and skill to a deepened understanding which allows them to change how they teach.

In this study, participants engaged in a collaborative model of learning and change (see Figure 1) wherein they discussed and developed their assessment and evaluation practices. I embedded the KASAB model within a community of practice in order to study the types of change that might occur as a result of social interaction.

Importance of the Study

As teaching becomes an increasingly demanding and complex job, it is essential for teachers to find more effective means of improving their practices. There is no reason for any teacher to have to stand alone when there is such richness in the combined knowledge of all teachers. Communities of learners provide teachers with a professional development model that is time efficient, meaningfully responsive to their needs, and that allows them the opportunity to direct their own learning, while at the same time promoting a more collegial teaching environment. As a means of professional development, this collaborative model may interest school boards as it encourages teachers to direct their own professional learning in a cost-efficient manner. Looking farther ahead, if this model proves to be successful, faculties of education could begin to train preservice teacher candidates to implement collaborative learning groups such as teaching circles during their year of study, initiating them into the process before they begin their teaching careers.

This study may have an important impact on teaching practice. If successful, it will provide a means by which teachers can develop and maintain their assessment literacy as well as their collective practices. It is likely that a change in practice due to teachers' improved assessment literacy will eventually lead to greater student achievement. Ultimately, if these goals are met, this study may prove the value of changing the environment in which teachers work to one that is collaborative.

Scope and Limitations of the Study

In giving teachers the opportunity work together to direct their own learning, the potential for collaborative teacher learning is limited only by the expectations of the group members. Ultimately, as soon as teachers take control of their own professional learning and begin to share their expertise with one another, the collective wealth of knowledge will benefit all involved. If successfully implemented into teachers' working schedules, collaborative teacher learning models have the potential to reform teachers' perceptions regarding their own professional development.

There were a number of limitations of this study. With respect to the participants, one concern was the size and nature of the sample. As the sample was purposeful and homogenous, it was narrowly defined; it was not representative of the population. As this study involved such a small number of participants, the results were based solely on the data from that limited and specialized group. Therefore, one cannot generalize the findings from the data gained from these participants. However, despite the specialization of this group, this form of collaboration should be easily transferred to a variety of different disciplines and grade levels.

Model of Collaborative Learning and Change

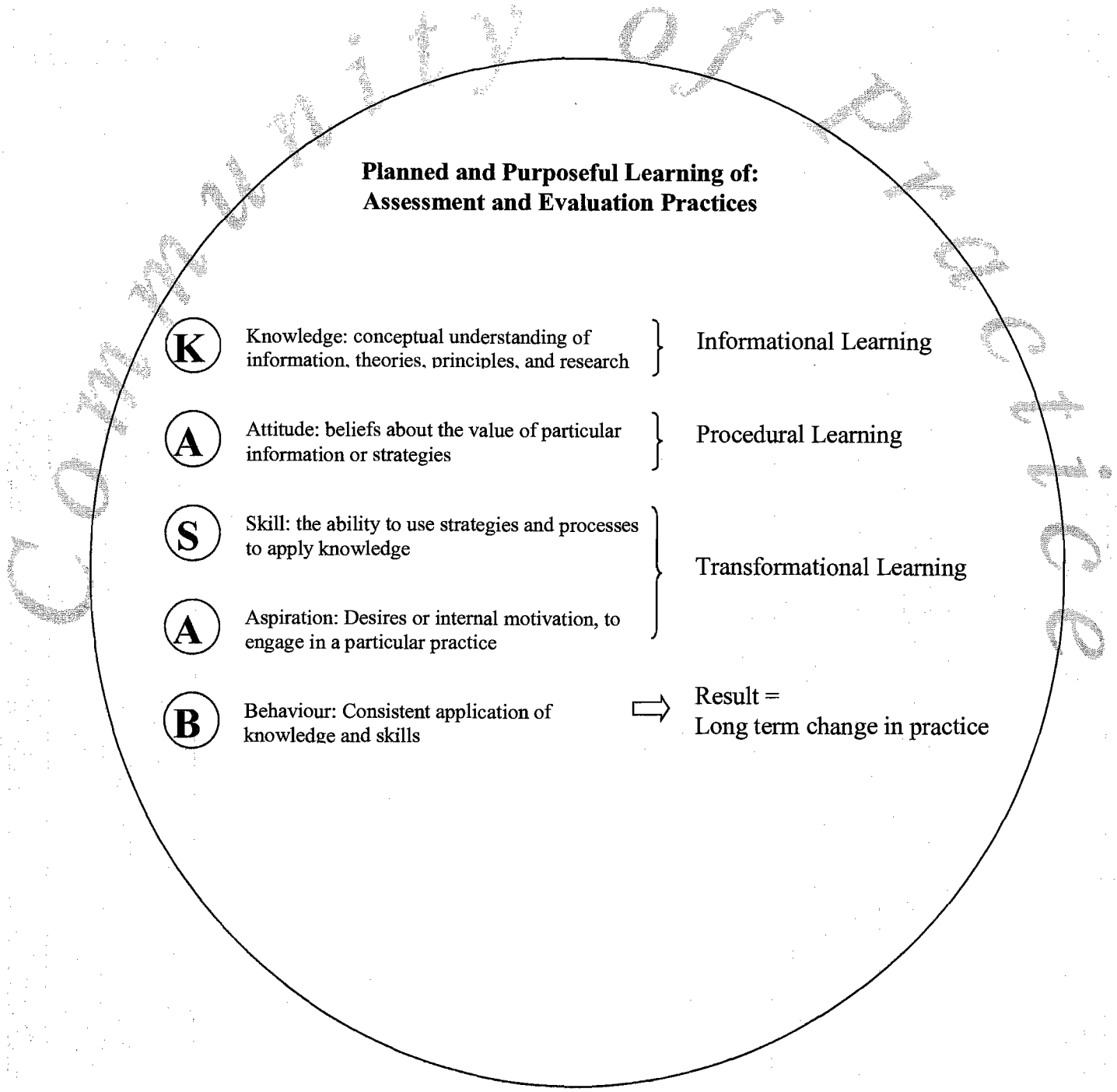

Figure 1. Professional learning and change embedded with a collaborative learning environment.

Note. From *Assessing Impact: Evaluating Staff Development* (p. 38), by J. Killion, 2008. Thousand Oaks, CA: Corwin. Copyright 2008 by Sage Publications Inc. Adapted with permission.

Another limitation lay with the possible inaccuracies of self-reported data of the participants (Bol et al., 1998). In order to minimize this limitation and to encourage accurate and honest responses, I assigned pseudonyms to reassure the participants of the anonymity of their responses.

There were also limitations related to the nature of the collaborative learning model. Because the bimonthly meetings were collaborative, participants were not guaranteed complete anonymity; there is the possibility that some participants might have been reluctant to be completely honest and open with their responses. I do believe, however, that the existing professional and social relationships among the participants and the collegiality that developed allowed the participants to feel secure and that they responded honestly.

As both researcher and participant, there was the possibility that my own biases and limitations would have an impact on this study. I took precautions to ensure that the results of this study were as credible as possible, employing methods such as triangulation of data sources and data collection methods as well as internal and external audits in order to limit my biases and to ensure the accuracy of my findings. I was aware of my dual role and took care to ensure that there was no confusion on my part between the two roles.

Another potential limitation was that I had previously established relationships with the participants of the study, both social and professional, and I had concerns that this could first, influence the participants in their decision to take part in this study, second, adversely affect those relationships, and third, affect their responses. I put precautions in place in order to prevent these situations from occurring. I ensured that

none of the participants felt any obligation to participate and allowed them the option to withdraw from the study at any point. I was confident in the strength of both our social and professional relationships that neither would be adversely affected by participation in this study. I reassured the participants that their responses were valid regardless of what they might think I wanted to hear. While there was no way to know whether my relationship with the participants had an impact on their responses, it does appear that they provided truthful responses.

Generally, the nature of a COP dictates that the community develops on its own as the result of a need perceived by the group members and ceases to exist naturally if and when the need for that community ends (Wenger et al., 2002). In this case, the COP was contrived for the purposes of this study and had a specific start and end. While a variation such as this is not inconceivable, what concerns me in particular is that the study and thus the COP ended before the community members achieved their goals. It is interesting to note that research undertaken by Butler et al. (2004) supports sustained and meaningful shifts in practice even after cessation of the collaborative model. Ultimately, however, while the early termination of the COP is a concern for collaborative learning in general, it did not have a detrimental impact on the study.

The framework on which this research is based evolved throughout the course of the study. I did not discover Killion's (2008b) KASAB model until after all the data had been collected. As a result, there is a mismatch between the initial direction of the study and the framework. It is unfortunate that I did not discover the KASAB model earlier in the process; more definitive results might have been achieved. As I analyzed the data, I was often frustrated that the questions I had asked or the direction that we had followed

in our meetings had yielded results that did not completely align with the theoretical framework. However, the benefits of adopting Killion's model far outweighed any disadvantages. While it is true that the data collection was not designed with the five KASAB themes in mind, those themes did emerge naturally from the data, enabling me to narrow the focus of the data and thus more effectively interpret the results.

Organization of the Document

Chapter Two examines the literature related to this study. The affiliation between professional development and educational reform is one that can be traced back to the 1960s when reform was first ushered in, and yet, professional development has not been a successful counterpart of reform. The failings of traditional forms of professional development as a means to improve education are well documented. In order to make up for these shortcomings, much research now indicates a need to move in the direction of collaborative learning. It is through collaborative professional learning that reformists hope that change will occur. As demands for accountability and change in education continue to grow, there are increased calls for more effective means of improving teacher practice, which it is hoped will lead to improved student learning. One area in particular that requires immediate attention in order to meet current changes in education is teachers' assessment literacy.

Chapter Three explains the methodology used in this study. A qualitative case study approach was taken in order to obtain an in-depth understanding of the collaborative learning process. An explanation of the selection of participants, the site of the study, and the field procedures is provided so that the reader is cognizant of the background of the study. Several data collection methods were used to ensure the

richness and depth of description as well as to ensure validity of the results. This chapter also outlines the data processing and analysis that I used. Assumptions that were made in this study and limitations of the methodology have been acknowledged and explained in detail, as have been the procedures that were employed in order to ensure credibility of the study. Because human participants were involved in this study, the section on ethical considerations outlines the precautions that were taken to protect their rights. This chapter concludes with a restatement of the purpose of this study.

Chapter Four begins with a summary of the purpose of the study and the methodology employed. The bulk of the chapter details the findings of the data that were collected through the various data collection methods. The results are organized by five conceptual themes, and those themes are further subdivided by time so that change over time could be tracked.

Chapter Five summarizes the study and presents a discussion of the results. The results indicated some change in the learning of the participants, and while not indicating any major change in teachers' practices, were important in indicating factors that need to be considered when investing in collaborative teacher learning. The impact of collaboration was perceived by participants to be positive, and the opportunity for further collaborative learning on the part of the participants was an unexpected result of this study. There are a number of implications for practice and theory that emerged and that warrant further study. Future research would also help to address the shortcomings and subsequent questions that were evidenced in this study.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Chapter Two reviews literature relevant to this study. The chapter begins by defining professional development and briefly discussing its purpose and various permutations throughout the years. It continues with a look at the limitations of traditional forms of professional development and then addresses the paradigm shift from professional development to professional learning. Professional learning in the form of professional learning communities is discussed in greater depth in the next section. The relationship between professional learning and educational change is framed by Killion's (2008a) indicators of change. The growth of learning communities is presented, as it is offered as a potential resolution to the issues of culture and professional development. This chapter concludes with a look at assessment literacy and how learning about assessment and evaluation needs to be embedded within a professional learning community.

Professional Development: A Brief Overview

Professional development in education has been ostensibly designed with the intention of providing teachers with opportunities to further their knowledge and skills and to implement changes or "improvements" in their teaching practice. Professional development was first initiated in the 1960s in response to calls for educational reform (Fullan, 2007) and since then has continued to be perceived as the remedy for fixing what ails in education. Undeniably, definitions of professional development are lofty and full of promise for teacher development and educational growth. Fullan (1995) defines professional development as "learning how to make a difference through learning how to bring about ongoing improvements" (p. 255). Additionally, Butler et al. (2004) define

professional development as "the depth and scope of shifts in thinking about teaching as linked to shifts in practice" (p. 743). A third definition is offered by Nielsen, Barry, and Staab (2008) who state "professional development is a common framework for facilitating professional change" (p. 1289). Based on these definitions of professional development, one might reasonably expect that professional development should be an ongoing and substantive process, a process that looks at the needs of both student and teacher and one that constantly evolves in order to improve student learning and achievement through improved teacher knowledge and practice. It would appear that the essential goal of professional development is to provide teachers with knowledge and skills that will enable them to change their practice for the better. A cautionary note should be added, however, as Nielsen et al. warn that the impact professional development has on teacher knowledge and practice is not conclusive.

Traditionally, professional development has focused on the acquisition of knowledge by the individual learner, with professional development most often taking the form of workshops and courses. Less formal, yet still perceived as professional development are the discussions and sharing of ideas among teacher colleagues (Little, 1993). More recently, professional development has spawned a wide variety of more collaborative learning ventures that focus on learning and growth of the school community, not just the individual, such as teacher study groups, coaching, mentoring, and lesson study, to name just a few. What has prompted this shift in professional development? As the world in which we live has developed into a knowledge-based society, with ever-increasing and rapid growth in technology and greater accessibility to information, demands on education to keep up with these changes have also increased,

and along with those demands has been a growing concern that traditional forms of professional development are not adequate for meeting the needs of today's students. In fact, a growing collection of literature refutes the significance and value of traditional forms of professional development and identifies their shortcomings in being able to meet the needs of today's teachers and students.

Limitations of Professional Development

In recent years, professional development of teachers has been perceived as questionable in value (Fullan, 2007; Guskey, 2003), fragmented (Fullan; Wilson & Berne, 1999), and inadequate (Borko, 2004). Why is this? By definition alone, professional development sounds worthy and ideal because, at the end of the day, the purpose of professional development is to improve student learning by providing teachers with greater knowledge and skills of subject content and pedagogy. The inherent problem is that the definition of professional development does not necessarily represent the current reality of teacher professional development; instead, professional development tends to be lost somewhere in a dichotomous entanglement of stagnant tradition and educational reform. Traditionally, professional development has consisted of the one-size-fits-all workshop, which has been heavily criticized as being ineffective (Garet, Porter, Desimone, Birman, & Yoon, 2001; Lieberman & Miller, 1990). As a rule, this form of professional development is driven from the top down and consists of one-shot sessions often delivered by an outside "expert" or authority (Fullan; Lieberman & Miller) and is usually held outside of the instructional day (Garet et al.). The content of the workshop itself is often determined by others, not by the teachers themselves, and tends to be nothing more than the dissemination of current innovations or fads (Ball & Cohen,

1999) or a response to issues that require immediate attention (Grossman et al., 2001). The workshop is designed with the individual learner in mind, and its purpose is to deliver content to compliant recipients who are then expected to digest their new knowledge and apply it to their own practice without the benefit of support or feedback. Even so, one cannot help but wonder in this age of reform, and with increasing pressure to improve student achievement, whether professional development that merely increases the knowledge base of individual teachers is enough to ensure teachers are able to meet the needs of their students.

While acquisition of knowledge is an integral component of any professional development opportunity whose value cannot be argued, the fact that workshops are limited to that facet is only one of their shortcomings. One does not need to look very far to find a variety of other arguments that have been utilized against the workshop form of professional development. One such criticism is the stand-alone nature of the workshop, which is not sufficient in depth or duration to sustain change, nor does it allow adequate opportunity for follow-up (Fullan, 2007; Little, 1993). Teachers are fed a certain amount of information on a certain topic and then are expected to go back to their classrooms and implement what they have been given, without opportunities for further discussion or opportunities to learn from one another in order to improve their practices (Ball, 1996). Workshops also tend to be disconnected from practice (Wilson & Berne, 1999) as well as from specific school direction or goals (Fullan), with the content focusing on the topic of the day instead of addressing specific needs of teachers or schools. The perception of professional development as something that can be done to teachers by others as opposed

to an opportunity for teachers to direct their own learning is yet another reason why professional development is criticized (Hannay, Wideman, & Seller, 2006).

Ultimately, the underlying problem with traditional forms of professional development is that, for the reasons listed above, these forms of professional development do not facilitate change in teaching practice, and without change there can be no improvement to education. Killion (2008a) explains that one of the problems with much teacher professional development is that the focus has been on knowledge acquisition and skill development instead of on deeper learning and long-lasting change. There is a multitude of diverse perspectives on how professional development can be improved (Guskey & Huberman, 1995). One possible approach is to reconceptualize the paradigm from professional development to professional learning. A shift in this orientation is considered by some to be the desired new direction in educational change (Fullan, 2007; Hannay et al., 2006).

The Paradigm Shift from Professional Development to Professional Learning

In recent years, traditional forms of professional development have been perceived to be inadequate in meeting not only teachers' needs but also the ever-changing needs of education in general (Fullan, 2007). In response, the more comprehensive concept of professional learning, with an emphasis on ongoing and sustained learning opportunities, has begun to appear in the literature. Ball (1996) states that "the most effective professional development model is thought to involve follow-up activities, usually in the form of long-term support, coaching in teachers' classrooms, or ongoing interactions with colleagues" (p. 501).

As is often the case in education, there is widespread ambiguity and misunderstanding surrounding the use of the terms professional development and professional learning. Killion (2008b) makes a distinction between the two terms; she identifies "[professional development as] the process of learning among educators; professional learning is the result of professional development and most often occurs when educators are effectively engaged in professional work, interaction, and development" (p. xv). Easton (2008) and Hannay et al. (2006) assert that *development* implies that teachers are merely the recipients of knowledge that is delivered from the top down. While knowledge acquisition is important, it is not enough to adequately prepare teachers to keep up with change or to meet the needs of all students in today's educational environment. They propose that a solution to this conundrum is for teachers to make the conceptual move from being *developed* to engaging in active *learning*—learning that is sustained and is relevant to their own professional and classroom needs. This reconceptualization reinforces that acquisition of knowledge and skills is not sufficient (Hargreaves, 1995); teachers must be able to make changes to their practice by creating and sharing knowledge as a means to solve genuine problems (Hannay et al.). One focal point that stands out in this reorientation of theoretical conceptions is that the learning itself can no longer be an individual venture; instead, an emphasis on collaborative learning and sharing and the development of a community of learners must form the foundation of professional learning. Such a change in standpoint will require a change in the teaching profession, which to this point has often been perceived as an isolated and solitary venture. Fullan (2007) emphasizes the need to reculture the teaching profession to one that is more open to learning, one that encourages learning and growth

of a community of learners, not just the individual learner. Hall and Hord (2006) affirm that "collegial learning provides a means for enabling the culture of educational change" (p. 30). It must be understood, though, that it will require the reculturing of professional learning because as Grossman et al. (2001) point out, "learning from colleagues requires both a shift in perspective and the ability to listen to other adults" (p. 973).

Professional Learning Communities

Professional Learning Communities (PLC) have come to the forefront as a means of addressing the shortcomings of traditional forms of professional development. PLCs are seen as a means to developing a school culture that is supportive of teacher growth in professionalism and efficacy (Hall & Hord, 2006). With today's emphasis on high-stakes testing and an ever-increasing prominence placed on accountability, DuFour and Eaker (1998) endorse the implementation of professional learning communities with their emphasis on learning as opposed to teaching, the importance of teacher collaboration, and a commitment to results. The current emphasis on data and results means that schools need to develop a common goal to work together to develop collective capacity, not individual capacity. That being the case, it follows that the next logical step in teacher professional learning is the implementation of PLCs because the development of the individual is not sufficient to drive whole-school improvement. This is a departure from traditional forms of professional development which focused on the development of the individual. Professional learning communities can take shape in a variety of manifestations: teacher study groups, critical friends groups, mentoring, coaching, lesson study, and book clubs, to name a few, but what they all have in common is a focus on the creation of a collaborative culture as a means of ensuring positive educational change for

both teachers and students. Smylie (1995) identifies teacher collaboration as a condition of an optimal learning environment. He believes that ongoing collaborative learning allows teachers to share ideas and work together to solve problems and to develop new practices.

Englert and Tarrant (1995) investigated the effectiveness of a PLC as they sought to understand the change possible through collaborative teacher learning. They initiated a study between teachers and researchers who focused their community learning on the development of literacy-related curriculum for primary students with special education needs. In the end, Englert and Tarrant found that the learning community was better able to sustain long-lasting and profound changes than were the traditional forms of professional development. In particular, they found four ways in which the learning community differed from more traditional forms of teacher professional development.

The first difference was the change in roles evidenced by teachers as teachers move from being recipients of knowledge to constructors of knowledge. The change in roles is essential because teachers need to be able to make decisions about issues that are important and relevant to their needs and practices, and the researchers had to allow them that autonomy. The second distinction is the importance that diversity among teachers brings to the process of constructing knowledge. Despite the potential risk of conflict, it is through each teacher's individual knowledge and questions that boundaries are expanded and growth and learning are experienced. The third feature is the need to value the dialogue among teachers and to allow it to develop in depth and complexity. Discourse analysis reveals that, in time, teachers are able to connect theoretical knowledge to practical application of that knowledge, thus allowing for better

understanding and then for deep-rooted change within their practices. The fourth and final finding is the realization of the time required in order for change to be able to happen. The change that can happen as a result of work in learning communities is a long-term process, a process that needs to provide teachers with ample time to construct their knowledge and then to apply it to their practice. In their study, Englert and Tarrant (1995) were able to identify change in teaching practice that occurs as a result of engagement in a PLC.

Grossman et al. (2001) provide some cautions with respect to building professional communities. They worked with a diverse group of teachers who would not have voluntarily come together to work collaboratively. Their community was a combination of successes and failures. By the end of the study, Grossman et al. came to realize that communities work most smoothly when teachers volunteer to participate and to work with compatible colleagues. The problem that arises from such a compatible grouping is that it is not necessarily an accurate cross-section of the school community; it is more of an idealistic community than it is a realistic community. What is missing is the diversity of background and beliefs as well as opposing viewpoints. Grossman et al. note that learning arises from conflict. It is from diversity that new learning occurs, when fundamental beliefs are challenged and people are willing to listen to and change beliefs. They identify communities as fragile entities, noting that their community could have fallen apart at any number of opportunities. They further caution that the structures for ongoing communities for learning do not yet exist in the school environment. Teachers are not afforded the time within the working day to engage in professional communities; instead, teachers have to meet after school and sometimes away from where they work. If

learning communities are to be embraced, appropriate structures for their implementation will need to be addressed. Assuming that the structures for learning communities are put in place, what impact might they have on educational change? In the next section, I will delve more deeply into the concept of change.

Professional Learning and Change

In order to examine the effectiveness of a collaborative model of professional learning, Khourey-Bowers, Dinko, and Hart (2005) formed study groups composed of two different sets of participants: lead teachers and teacher participants. The data were collected over a period of 2 years. The study addressed all five of Killion's indicators of change: knowledge, attitude, skill, aspiration, and behaviour. Khourey-Bowers et al. discovered that all participants made significant gains in content knowledge and pedagogical skills such as teaching and assessment strategies. Additionally, the participants showed a significant positive change in their personal teaching beliefs. Teachers spent more time in professional development activities than had been expected, and the researchers believed this time allowed teachers the opportunity to examine and to change their attitudes and practices. While all participants demonstrated growth and change, the researchers found noteworthy differences between lead teachers and nonlead teachers, namely with respect to change in aspiration. What they found was that lead teachers were more likely than nonlead teachers to accept reform practices and beliefs. They attributed this difference in aspiration to the deeper and more prolonged learning opportunities that were experienced by the lead teachers, which might have given them a greater sense of confidence to initiate change. Change in behaviour was demonstrated in two ways. In the second year of the study, change in behaviour was demonstrated by the

lead teachers who found that through the use of facilitation strategies, their groups were experiencing greater effectiveness in problem solving. Although limited, data on classroom observations indicated that teacher use of effective practices was being accepted and implemented. In terms of Killion's five indicators of change, all were evident in this study, leading the researchers to believe that a collaborative model was an effective method of professional learning.

Nielsen et al. (2008) conducted research for the purposes of exploring teachers' perceptions about the change process and how a professional development initiative might support change in their own practices. This study examined the perceptions of teachers who participated in the Total Literacy Connection (TLC) initiative. The 2-year study undertaken by Nielsen et al. involved 41 kindergarten to grade 3 teachers from five schools. The TLC initiative established ongoing and sustained professional development measures that included literacy coaches and formal collaboration opportunities. By the end of the first year, teachers viewed themselves as learners, evidencing change in knowledge, attitude, skill, and aspiration. Teacher participants attributed these outcome changes to the professional development structures that were put in place by the literacy reform initiative. The first of the three structures that supported the teachers in changes in knowledge, attitude, and skills was professional development that was job embedded. Teachers cited access to instructional role models, namely literacy coaches, as being instrumental not only in confirming their already existing practices but also in enabling them to see the value of new information and instructional strategies. Teacher modeling by literacy coaches also effected change in teachers' attitudes by increasing their expectations for student learning as they realized their students' potential. The second

structure put in place by the TLC initiative allowed teachers opportunities for focused and deep learning of specific concepts, strategies, or practices and access to supporting resources. Engagement in professional development that was focused and provided for deeper learning allowed teachers to change their attitudes in that they developed the efficacy necessary to implement new strategies. The third and final structure that supported teacher change and growth was access to resources; accessibility of resources (time, materials, and people) was essential to teachers' aspirations, and reflected their willingness to persevere despite challenging circumstances.

After the second year, as a result of the professional development opportunities they had experienced, teachers demonstrated consistent change in their teaching behaviour. There were two factors that enabled teachers to sustain their changes in teaching practice. The first factor was a change from curriculum-centered teaching practices to practices that were centered on student development and student needs. As teachers' beliefs about instructional practices and student capabilities changed, they realized the value of using student data to drive their instructional practices. They no longer used curriculum or resources to plan their instruction; as the teachers began to use data to focus their planning for student needs, they found that they gained confidence in making lasting instructional changes. The second factor essential in enabling teachers to maintain change in practice was increased collaboration. Because teachers had changed their instructional focus, there was a greater need for sharing with and learning from others (Nielsen et al., 2008).

It is important to note that the changes made by the teacher participants were not easily done. Nielsen et al. (2008) recognized that the teachers were under a great deal of

external pressure to implement change in their practice and that this pressure was stressful for those teachers. However, having the opportunity to learn and to collaborate in this initiative with its supporting structures was sufficient to motivate the participants to persevere. These changes, however, were evident only at the classroom level; teachers did not see themselves as change agents beyond their classrooms. Nielsen et al. believed that the reason for their sense of limited ability to initiate change may be due in part to teachers' perceptions of the piecemeal nature of previous professional development initiatives as well as lack of control over the direction of their own learning experiences. While teachers initially resented the accountability aspects and the external imposition of the TLC initiative, by the end of the 2-year study, teachers were able to move beyond knowledge and skills acquisition to being able to implement meaningful and sustained change in their practice.

Today's demand for educational change revolves around school systems' endeavours to raise expectations and to close the learning gap of students (Fullan, 2007). Standardized testing and accountability have become focal points in the current reform movement. What has been lacking to this point is an accompanying focus on the development of teachers' assessment literacy, which would better enable teachers to deal with the demands for change.

Using Professional Learning to Change Assessment and Evaluation Practices

Assessment and evaluation are an integral element of educational reform in the 21st century, as has been clearly evidenced by the recent emphasis on accountability through standardized testing (McNair, Bhargava, Adams, Edgerton, & Kypros, 2003). Conversely, it is due to the introduction of standardized testing that alternative

assessment practices are gaining in popularity (Bol et al., 1998; McNair et al.; Mertler, 2000). Traditional forms of assessment include standardized and close-ended tests, whereas alternative forms of assessment include observation, performance-based tests, student self-evaluation, and portfolios. Alternative assessment practices, also known as authentic assessment practices, measure classroom tasks that mirror real-life activities and that have meaning for students outside of the classroom (Bol et al., 1998); they allow teachers to align curriculum and instruction with the needs of students (McNair et al.). Assessment is more than simply grading assignments and tests; it is a process that involves the collection and interpretation of information that is then used to inform instruction, thus improving student learning (Cizek et al., 1996). Additionally, assessment is essential in determining and in analyzing the strengths and weaknesses of students as well as in providing evidence that students are indeed learning what they have been taught (McNair et al.). Assessment becomes ineffective when teachers fail to use it for the reasons as stated above (Daniel & King, 1998; McNair et al.), and instead use assessment merely for accountability and reporting purposes (McNair et al.). Essentially, teachers need to implement a variety of assessment practices, both traditional and alternative, as a valid means of measurement (Bol et al.; Cizek et al.; Daniel & King).

In this age of accountability and standardized testing, teachers' assessment practices must be able to withstand close scrutiny and to demonstrate sound instructional principles. Therein lies part of the problem. According to research, teachers' assessment literacy is inadequate (Bol et al, 1998; Cizek et al., 1996; Daniel & King, 1998; Popham, 2009). The fact that teachers do not perceive themselves to be assessment literate is worrisome. With anywhere from 15%-50% of a classroom teacher's time being spent on

assessment (Daniel & King), not only is it essential that teachers understand and are knowledgeable about sound assessment principles, but they also need to be able to accurately and effectively interpret assessment data and to use appropriate assessment strategies (Daniel & King).

We are faced with a teaching profession that is not assessment literate. The question is how then do teachers develop their assessment literacy? While it may be expected that preservice teachers would be introduced to these practices and documents in their coursework, it has been found that their assessment training is inadequate (Cizek et al., 1996; Daniel & King, 1998; McNair et al., 2003). In addition to preservice training, many teachers believe that they gained their assessment knowledge on the job (Daniel & King; Mertler, 2000). It stands to reason that if teachers are to be expected to be assessment literate, then training and ongoing support are essential (McNair et al.). However, a caveat must be added with respect to becoming assessment literate; assessment literacy is more than talking the talk. Teachers may be familiar with the vocabulary, but that does not mean that they are able to implement appropriate assessment strategies effectively (McNair et al.).

If reform in education accomplishes nothing else, at the very least it should strive to develop competence and consistency in teachers' assessment literacy. In the document *Literacy for Learning: The Report of the Expert Panel on Literacy in Grades 4 to 6 in Ontario, 2004*, the statement is made that common assessment practices should be developed school-wide and that teachers should be given opportunities to engage in professional dialogue to learn about effective assessment strategies. Assessment is an area of teachers' practice that has showcased teachers' isolation (Cizek et al, 1996). In

their study, Cizek et al. discovered that not only do teachers work independently of one another when engaged in assessment, but also they are generally unaware of the assessment practices of their colleagues and even the assessment policies of their school board. Furthermore, teachers implement a variety of assessment strategies, but do so in a random fashion, rather than systematically or for the purposes of improving instruction, thus weakening the effectiveness of assessment (Cizek et al.; McNair et al., 2003). As a result, Cizek et al. recommend that teachers be provided with the opportunity to collaborate on assessment. The following studies demonstrate how collaborative learning can have an impact on teachers' assessment literacy.

Lock and Munby (2000) conducted a study over the course of a school year in which they studied a teacher's attempts to implement a new assessment method and the role that his beliefs played in preventing him from changing his practice. The researchers theorized that a teacher's beliefs influence his or her classroom practice. This one case study was part of a larger 4-year research project designed to investigate teachers' assessment practices. In this case, the participant was attempting to implement goal setting, portfolios, and student-led conferences into his assessment practice. Four themes emerged from this study: teacher beliefs, understanding of the new assessment method, contextual factors, and collaboration. The participant's unwillingness to change his fundamental beliefs of assessment played a pivotal role in his failure to change his practice. His beliefs in teacher-centered assessment practices were so firmly entrenched that he was not able to implement the student-centered activities successfully despite his desire to make the change. His lack of understanding of the assessment methods also contributed to his failure. He did not have the knowledge or skill to replace his long-

standing practices with the new method of assessment. He faced a number of other factors that obstructed his progress such as classroom interruptions, demands on his time, and other responsibilities both within and outside the school. The final theme was that of collaboration. Initially, the participant viewed the researchers as experts, and he looked to them for leadership. The researchers worked diligently to ensure that he began to view himself as an equal partner in collaboration. Ultimately, the researchers concluded that it is difficult to change long-standing beliefs, even if change is desired. Knowledge and skill need to be developed if the change is to be adopted. Other factors in the teacher's working environment that may serve as obstacles must also be taken into account. While the change was not successful in this case study, the researchers found that collaboration did serve to develop shared understandings and to bridge the gap between theory and practice.

In their research that was comprised of three separate studies, Parr, Glasswell, and Aikman (2007) set out to discover if developing and using a writing assessment tool would aid teachers in their pedagogical content knowledge of writing and writing assessment. The first study had a group of participants working with the team of researchers to develop a writing assessment tool. The researchers had designed the theoretical framework of a rubric, including a draft of criteria based on curriculum. The participants and researchers collaborated to refine the rubric. They then tested the rubric against student writing samples. At the end of this study, the researchers wanted to find out what the participants had learned. The participants spoke highly of the usefulness of the rubric. They professed that they had learned more about the assessment of writing; they better understood that assessment links teaching, learning, and the curriculum, and

as a result of their participation in this study, they were better able to assess student writing. The participants also learned more about the teaching of writing, specifically what they needed to do in order to become better teachers of writing.

The second study focused on developing teachers' proficiency in using rubrics to assess student writing (Parr et al., 2007). The researchers wanted to know if the teachers could use the rubrics efficiently and reliably. A second cadre of participants was selected for this study, although there were a few participants who had been involved in the first study. Through a number of moderated assessment sessions, the results indicated that the participants were able to use the rubrics to assess student writing reliably, meaning that the teachers were able to assess student writing with consensus and consistency. In addition, this exercise helped the teachers to develop a greater knowledge of assessing writing and to plan more effectively for teaching writing.

The third and final study was undertaken to determine the impact the rubric might have on the participants' beliefs and practices. The participants were drawn from those participants who had been involved in either the first or the second study. These participants were interviewed by the researchers to determine what changes might have taken place. There were four key findings that evolved from this study. The first common theme was that the teachers had deepened their knowledge of writing. In working with the rubrics, the teachers learned about the features and structures of writing and the curriculum-referenced criteria for assessment, which enabled them to understand more fully the components of effective writing. The second finding was that their greater knowledge of rubrics and performance indicators allowed them to know what was important in assessment of writing and, ultimately, what was important to teach. The

participants also found that they had developed a common language that not only helped to deepen their understanding, but also helped to provide a focus for their discussions. Finally, the participants realized that they had changed their practices; they had clear expectations of what to expect from their students, and they felt that their teaching of writing had become more explicit (Parr et al., 2007).

Summary of the Literature Reviewed

Collaboration has its place in the culture of teaching if steps are taken to ensure its effective implementation while keeping in mind that it is essential to ensure that a teacher's individuality is not lost in the group collective (Fullan, 1996). There is a wealth of knowledge held by teachers that would serve the teaching profession well if it could be tapped by those very same teachers. Through the development of learning communities, teachers can take the opportunity to learn about and improve their teaching practices, specifically assessment practices. When teachers have the opportunity to engage in dialogue that is specifically about assessment, they begin to examine their practices and seek ways to ensure that their assessment is based on sound principles and that learning is maximized for all students. By the same token, teachers developing their assessment literacy through collaborative learning teams may develop consistency in their assessment and evaluation practices, and that can only benefit students.

CHAPTER THREE: METHODOLOGY AND PROCEDURES

In this chapter, I have described the methodology used in conducting this research. The contents of this chapter include a description of the research methodology, the selection of participants and sites, instrumentation, field procedures, data collection, data analysis, limitations, credibility, and ethical considerations.

Description of Research Methodology

I employed a qualitative case study research design to explore the results of a group of teachers who participated in collaborative learning as a means of examining their assessment and evaluation practices. I selected an ethnographic design because, as Creswell (2005) points out, culture is an integral component of the research, and my study was very much shaped by culture. In a case study approach, the researcher wants to provide readers with the opportunity to learn about and better understand a particular phenomenon. Merriam (1998) defines a case study as "an intensive, holistic description and analysis of a single, bounded unit" (p. 193). My intent was to determine the effectiveness of a collaborative learning framework on teachers' assessment practices, as is characteristic of a case study (Bassey, 1999; Merriam).

My stance in this research study was researcher participant (Merriam, 1998). My initial intent was to begin by facilitating the collaborative learning sessions until the participants were willing to take over the role of meeting facilitator, and then I could step back and take on more of an observer participant role. Patton (cited in Merriam) advocates for a balance between participation and observation in order not only to understand the phenomenon from a firsthand experience but also to better explain the phenomenon to the readers. In the end, the transfer of facilitator role did not occur, as the

participants preferred that I continue to act as facilitator for the duration of the study. They felt that their schedules were too busy to allow them to take on the additional responsibility of facilitating meetings. Because I wanted to cause as little disruption to their working lives as possible, I was quite willing to continue to facilitate the meetings. I realized that as researcher, participant, and observer, I had to be aware of my own biases about assessment and evaluation and their possible impact on the participants and the study, so I took care to keep my influence on the participants to a minimum. It became obvious to me early on in the study that the participants had the benefit of more current knowledge than I did regarding assessment and evaluation practice; therefore, if anything, I found my views of assessment and evaluation being shaped by their perceptions instead of the other way around. In order to avoid sharing my views and opinions during the meetings, I focused on my role as facilitator, developing facilitation skills such as: developing collaborative norms, designing and conducting successful and efficient meetings, and developing collaborative groups (Garmston & Wellman, 1999). As facilitator, I set meeting agendas based on the direction of the previous meeting and the participants' desires. At the conclusion of each meeting, I wrote up the minutes. The minutes and agendas were presented to the participants for verification and clarification; participants were encouraged to direct me to make corrections or changes as they saw fit. I realized that I had been successful in keeping my influence on the participants to a minimum when one of the participants, Sam, indicated during her final interview that a facilitator's role was multifaceted and complex and did not allow for full engagement in the group discussion and that she believed that I had been successful in the role of facilitator. She noted that I had not engaged in group discussions, but I had been "the

person who sits back, listens, observes, and keeps them [the participants] within the parameters."

Selection of Participants and Sites

The participants in this single case study were selected from a school in a small community that is part of a large industrial city in Ontario. The school population is approximately 600 students, ranging from kindergarten to grade 8. I selected this particular school because I knew from prior experience of working at that school and with a number of the teachers that teachers in this school would be willing to engage in a collaborative venture such as this in order to develop their professional practices. I was quite aware that my existing relationships with potential participants might be cause for conflict. In order to ensure that any prior professional relationship did not exert undue pressure on potential participants, I made assurances to this effect in writing through an informed consent form as well as orally to each of the potential participants. So that I could best understand the tendencies of collaborative learning groups with a specific focus, I decided to use a homogenous purposeful sample (Creswell, 2005). I identified a number of specific categories required by individual participants in this study. As I wanted to examine the assessment and evaluation practices of teachers who taught writing at the junior-intermediate division, individuals who met the criteria were invited to participate in this study. Because the nature of professional learning communities requires a relatively small sample of group members of 5-10, it was my expectation that I would be able to recruit a sufficient number of participants. I distributed invitations to participate to 10 individuals. I ensured that potential participants did not feel any pressure or obligation to participate in the study through the wording of the invitation as well as

through oral reassurances. Some invited individuals were unable to participate because of other commitments. The final number of teachers who were willing to participate in the study was 7.

I extended invitations to participate in the study to individuals who met the criteria outlined below. The invitations were issued in the form of a Letter of Introduction and the Informed Consent Form. Included with the aforementioned forms, I provided potential participants with information about the collaborative learning process (see Appendix A). I asked potential participants to respond within 1 week, and from the seven positive responses that were returned, I established the collaborative learning community. One of the requirements for participant selection was that the participants teach language, and in particular, writing. Five of the participants were core classroom teachers, meaning that they taught language (among other subjects). Of the remaining 2 participants, 1 participant taught French on a rotary basis to students in grades 7-8, with writing being a component of her teaching assignment. The final participant was the teacher-librarian, who provided support in language to the other language teachers. Years of teaching experience ranged from 1 year to more than 30 years. There were 6 female participants and 1 male participant. Pseudonyms were assigned to each participant in order to protect their identities. Table 1 identifies the characteristics of each participant.

The research was conducted at two sites. The purpose for choosing these sites was to provide a location in which the participants could meet as a collaborative team to engage in learning and discussion about assessment and evaluation. The first site was an off-school location. I selected a local restaurant as the location in which to conduct our meetings. I chose this location to establish a casual atmosphere, one in which the

Table 1

Characteristics of Participants

Pseudonym	Gender	Assignment	Years of experience
Alex	F	Grade 6	10
Chris	M	Grade 8	9
Kelly	F	Grade 8	1
Joey	F	Teacher-librarian	6
Sam	F	Core French	30
Sandy	F	Grade 4	5
Terry	F	Grade 7	17

participants would feel comfortable and relaxed. I did not want them to feel that these meetings were a continuation of their workdays. This was a location with which the participants were familiar, as they often met here after school at the end of the week. I had not intended to change sites, but as the study progressed, the participants requested a change in location because they did not feel that the restaurant was conducive to their work completion. Among the problems they cited with the restaurant location was that it was often too noisy, and the table arrangement did not allow the participants to engage in dialogue with all other participants, nor did it allow them to spread out their materials and work. In the last 2 months of the study, the participants requested to change the location to the school. Because they were at the stage of creating their own assessment tool, they wanted a location that was quieter, that offered more room to work, and that provided them with easy access to their resources.

Instrumentation

I employed multiple data collection techniques in order to obtain a variety of information for this study. Those techniques included conducting interviews, observing, and analyzing documents. In order to understand the case study, I needed breadth and depth with respect to the data I collected (Merriam, 1998). I met formally with the participants twice a month from January to June to engage in collaborative learning. As a participant observer at those meetings, I gathered data through observational fieldnotes (see Appendix B) as well as through my own reflections (see Appendix C). Each meeting was digitally audiotaped. I reviewed the audiotape after each meeting and scribed a summary of the key ideas discussed. At the conclusion of each collaborative meeting, I wrote up the minutes (see Appendix D) and presented them to the participants at the next

meeting for verification. Participants in the study were asked to complete an assessment survey (see Appendix E) and an assessment log (see Appendix F) before, during, and after the study in order to monitor and to reflect upon changes to their assessment and evaluation practices. At the conclusion of the study, they were asked to complete an evaluation of the efficacy of teaching circles (see Appendix G). Additionally, the perceptions of the participants were studied through semistructured interviews conducted prior to the commencement of the study and at the end of the study. I digitally audiotaped and transcribed all interviews. Table 2 summarizes the methods of data collection.

The semistructured interviews were designed to give me, the researcher, insights into their perceptions of collaboration in general, their involvement in a structured collaborative venture such as a teaching circle, and their perceptions of assessment and evaluation. Both interviews were organized into broad categories, each with its own set of probing questions. I used a combination of predetermined and open-ended questions so that I could capture the participants' unique perceptions (Merriam, 1998).

Observations are a primary source of data in qualitative research (Merriam, 1998). As researcher, I collected a variety of observations. I noted observations as I conducted interviews with the participants as well as during the bimonthly collaborative meetings. I designed an observation protocol (see Appendix B) to be used as I observed the meetings so that my observations would be systematic and more reliable (Merriam). Among the elements I observed were engagement of the participants and activities and interactions of the participants (Merriam). At times, because of my roles as participant-observer and meeting facilitator, I found it difficult to maintain the detachment needed in order to

Table 2

Data Collection Methods

Data Collection	Appendix	Frequency	Completed by: R = Researcher P = Participants
Observational fieldnotes	Appendix B	Twice per month	R
Observer reflections	Appendix C	Twice per month	R
Meeting minutes	Appendix D	Twice per month	R
Assessment survey	Appendix E	Monthly	P
Assessment log	Appendix F	Monthly	P
Teaching circle evaluation	Appendix G	At end of study	P
Initial interview	Appendix O	At end of study	R & P
Final interview	Appendix P	At end of study	R & P

sustain a continuous flow of observations during the meetings. Most observations were recorded after each meeting, although I was fortunate to be able to rely on the digital recordings of the meetings.

While collection of documents was used to a lesser degree than were interviews and observations, I employed some researcher-generated documents. Merriam (1998) defines researcher-generated documents as those documents prepared by the researcher after the study has begun for the purpose of deeper learning. I used three types of documents. At the beginning of the study I asked the participants to complete an assessment survey (see Appendix E) in which I asked them to identify the assessment and evaluation strategies they commonly used. The second document was an assessment log (see Appendix F), maintained and updated once a month by the participants. At the end of the study, the participants completed an evaluation of the learning community (see Appendix G). The information gathered from these documents was instrumental in providing me with greater insight of the perceptions and assessment and evaluation practices of the participants.

Field Procedures

Two meetings per month, following a learning community approach known as a teaching circle (see Appendix H), were initiated in January 2006 and ended in June 2006. As is common with professional learning communities, a teaching circle is designed to promote discussion, to enhance teaching practice, and to allow for professional development (Blackwell, Channell, & Williams, 2001). The reason I selected the teaching circle format was that it has a structure and definitive timeline. For the first meeting, I prepared an agenda (see Appendix I) and a general outline for the organization

of the subsequent meetings (see Appendix J), in which I incorporated the suggestions and revisions of the participants. At the initial meeting, participants were required to define a common purpose in the form of teaching circle goals and objectives for the group (see Appendix K) as well as individually (see Appendix L). For the remainder of the meetings, I prepared agendas and minutes of the previous meetings.

I maintained regular contact with the participants between meetings via email and a website that I created in conjunction with one of the participants in order to address any interim questions and to alleviate any potential concerns. Once the website was created, I took on the responsibility of maintaining it. The website was created for the purpose of storing all documentation and of keeping the participants updated. The participants were invited to use the website as a means of information and for finding any of the documentation that we discussed or used at the meetings. There was no obligation for the participants to visit the website, but they were aware of its existence and purpose. When I needed to contact participants between meetings, I most often sent emails or visited them in person at the school. In order to ensure that this additional contact was not intrusive, I asked permission of the participants to contact them or I contacted them at their requests.

Interviews were conducted before the collaborative meetings began and once again after they had ended. I attempted to be sensitive to the needs and schedules of the participants when I conducted the interviews. I arranged for the interviews to happen at a time and location of convenience for the participants, and I provided the participants with a coffee or tea to put them at ease. The participants were informed of the interview process, and I proceeded with the interviews when they were ready. Interview protocols were used for the interviews. As each interview was audiotaped, I verified that the digital

recorder was in working order before beginning the interviews. During and after the interviews, I recorded my observations.

Data Collection

Data were collected on an ongoing basis using a variety of methods for the duration of the study. Data collection was comprised of the following methods: interviews, observation and reflection, documents including assessment surveys and logs, and participant feedback. In case studies, multiple methods of data collection are generally used to obtain rich and detailed data in order to attain an all-encompassing view of the case (Merriam, 1998).

Observational data were collected through fieldnotes taken during teaching circle meetings and from my own reflections on my perceptions of the progress of the teaching circle. As my role was both observer and participant, I thought it important to use both forms of observation in order to minimize the ambiguity of my dual roles. I audiotaped the teaching circle meetings in order to ensure that I did not miss any important nuances of the meetings. At the end of each meeting, I loosely transcribed the tapes and referred to those notes when I completed my observation and reflection notes.

Documents in the forms of assessment surveys and logs that were completed by the participants were also used for the purpose of data collection. These documents were representative of the participants' thoughts and perceptions and were valuable for those very same reasons, as the purpose of this qualitative research was to gain understanding of a phenomenon and of people's perceptions of that phenomenon (Merriam, 1998). Participants were asked to complete the assessment logs monthly so that I could track individual development in assessment and evaluation practices. In order to ensure that I

was not imposing too greatly on the participants' time, I asked for their input into the frequency of completion for the documents, and then I provided them a timeline of due dates (see Appendix M). Finally, participants were asked to complete an evaluation of the efficacy of the teaching circle process at the conclusion of the teaching circle meetings in June 2006.

The final data were collected through individual interviews conducted both prior to and at the end of the study. Participants were interviewed twice, which enabled me, as researcher, to pinpoint indicators of growth from the beginning of the study to the end. Participants were informed of the interview protocol (see Appendix N), which included an explanation of the purpose of the interview, the format of the interview, a guarantee of confidentiality, a request for participant consent and permission to tape record the interview, and appreciation for participation in the interview. As this study was qualitative in nature, the interviews were semistructured and conversational in order to gain a strong sense of the participants' perceptions and feelings (Merriam, 1998). I prepared guiding questions (see Appendices O and P) to use for the interviews because I wanted to maintain continuity from one respondent to the next and also from one interview to the next. In order to ensure that the questions I asked were both clear and appropriate, I first field-tested the initial interview guided questions in a mock interview with a volunteer and then made modifications based on feedback from that mock interview. During the interview, I took some notes, but not to the extent that I was not able to focus my attention on building a positive rapport with the individual participants. Instead, at the conclusion of the interview I took the time to record reflective notes

(Merriam) based on my recollections of the interview. The interviews were audiotaped with a digital recorder, and I transcribed the interviews myself.

Data Processing and Analysis

Data collection and data analysis occurred simultaneously throughout the study as is particular to qualitative research designs (Merriam, 1998). The process I followed to begin with was the constant comparative method, as outlined in Creswell (2005), where I gathered data, performed an initial sorting of data by category, continued to collect more data, added more data to existing categories, and created new categories, while moving toward a more abstract conceptualization of the data. In my initial analysis, I explored and coded the data retrieved from field observations, documents, and interviews by looking for similar descriptions. In addition to coding the data, I kept notes on the process and on my thoughts, which served as a preliminary form of analysis (Merriam). After the initial level of coding, I began a secondary, more in-depth analysis of the already coded data. In determining the categories, Merriam suggests the following guidelines: They should answer the research question(s), they should include all relevant data, they should be exclusive, they should clearly indicate the nature of the data, and they should demonstrate the same level of abstraction. After I derived all the categories and placed all the data into those categories, I planned to take my analysis to the final level of theory development, which would have been instrumental in explaining the meaning of the data. This was a recursive stage, one in which I verified and changed findings until a substantial theory emerged. It was during this stage that I discovered Killion's KASAB model. Upon learning about Killion's (2008a) five types of desired change (knowledge, attitude, skill, aspiration, and behaviour) and realizing that those types of change were

present in the culture I was studying, I began to use ethnographic analysis from an emic perspective (Merriam).

Throughout the process of analysis, I used a word processor to organize, manage, and explore the data. After initially organizing the data into common themes, I rearranged the data into Killion's five themes. Throughout the process of analyzing the data I wrote memos as a means of making sense of the data (Miles & Huberman, 1994).

Methodological Assumptions

There were a number of methodological assumptions related to this study. It was an assumption on my part that the data collection methods would adequately address the research questions. I assumed that multiple methods of data collection would result in accurate and valid results. I made some assumptions with respect to the participants. I made an assumption that the participants would be truthful and forthcoming in their responses. I assumed that the time frame allocated for the study would be sufficient to achieve conclusive results. I also concluded that this was a worthwhile study that would contribute to the teaching profession.

Limitations

A limitation of the study in general was its lack of generalizability, due to the small size and specific nature of the sample I chose to use. In order to minimize this problem, I ensured that I provided descriptions that were rich in detail so that future researchers would be provided with sufficient data for comparison. The small size of the sample prevented equity in gender, which may have caused implications for the study.

As my role crossed over between observer and participant, I had to ensure that my biases regarding assessment and evaluation practices were not evident or did not

influence the other participants. I was very aware of the possibility that because of the informal nature of the meetings and because of my relationships with the participants, I might voice my own views during the meetings. In order to minimize this possibility, I took care to focus on my responsibilities and skills as facilitator and observer. Taking on these roles enabled me to distance myself from the discussion and merely to guide and support the group as they forged ahead with their discussions. As it turned out, there was actually very little opportunity for me to voice my opinions or to influence the results of the study in any way, as the participants tended to lead the discussions themselves. It was very easy for me merely to ensure the smooth facilitation of the meetings.

My prior relationship with many of the participants was a potential cause for concern. I attempted to alleviate any conflict in this area through the informed consent form as well as through verbal reassurances. There was a possibility, however, that despite my precautions, some of the participants may have felt pressured to participate or to respond in a certain way, but my own knowledge of the participants reassured me that they would have shared any issues of concern.

The study was limited by the preset timeline and by the length of the study itself. It was an artificial timeline that did not allow the participants to complete the goals that they had established. According to Wenger et al. (2002), a community of practice generally develops as the need arises and ceases to exist as the needs of the community are met. Allowing the collaborative community to end naturally upon completion of the community's common goal could have allowed for more conclusive results. Despite the potential shortcomings of the predetermined timeline, the results of the study are no less valid than if the community had come to a natural end. I had assumed that a 6-month time

period would be sufficient to investigate the effect of collaboration on teachers' assessment and evaluation practices, but in reality, an allocation of a greater length of time might have afforded more conclusive results. It is interesting to note, however, as is discussed later in this paper, the participants themselves chose to find a way to continue with the learning community on their own after the completion of the study.

Because I adopted Killion's (2008a) model of desired outcomes as my framework during the analysis portion of this study, the study was limited by a lack of congruency between the interview questions and Killion's model. The focus for the interviews had been determined and the interviews carried out before the five types of change were used to frame the study. Had I discovered Killion's model sooner in the study, I would have ensured alignment between the desired outcomes and the interview questions. Regardless, the discrepancy between the model and the interview questions was minimal. My decision to adapt my framework allowed me the opportunity to delve deeper into my data.

Establishing Credibility

Validity and dependability of findings are essential to establishing the credibility of a study. The establishment of validity and dependability in a qualitative study needs to be handled differently than if the study were quantitative. By its nature, a qualitative study provides results in the form of deeper understandings; thus, the results are not as easily measurable as those found in quantitative studies. Merriam (1998) states, "validity and reliability are concerns that can be approached through careful attention to a study's conceptualization and the way in which the data were collected, analyzed, and

interpreted, and the way in which the findings are presented" (p. 199). In other words, the means of establishing credibility must suit the subjective nature of the study.

Validity of a study concerns the relationship between the findings and their relevance to the real world. The difficulty with reality is that everyone has his or her own perception of it (Merriam, 1998). Therefore, the researcher must make every effort to demonstrate a connection between study findings and an acceptable reality. In this study, I employed a variety of strategies in order to demonstrate the validity of my findings. Triangulation of multiple sources of data, such as observation notes, reflections, and interviews, served to corroborate my findings. Throughout the study, I involved the participants in member checks, asking them to verify the data which I had collected and the analyses I made. Finally, I attempted to establish validity through numerous observations of the teaching circle meetings.

The results of research in a qualitative study also need to be dependable; based on the collected data, the results should be logical (Merriam, 1998). In order to ensure the dependability of the results of my study, I used a variety of methods of data collection, interviews, observations, and documentation, through which I triangulated my findings. So that an audit trail could also be used to verify the results, I maintained a clear and detailed record of my data collection and data analysis methods throughout the duration of the study.

One final note concerns the transferability of my research study. Due to the very specific nature of the sample I used, it would be very difficult to replicate this study. However, I have ensured that I provided ample detailed description so that readers can make their own comparisons.

Ethical Considerations

In order to undertake this research study, I first had to gain permission from the Evidence-Based Education and Services Team within the board where this study took place. I completed an application to the Brock University Research Ethics Board (REB) and wrote a letter to the director of education indicating what I wanted to do, its relevance to education, and potential risks and benefits for the participants and for the school board. I submitted the ethics application form and the letter to the research team. Once approval was gained from the school board, I sought permission from the Brock REB. I submitted a completed application form, including additional documents such as letter of invitation, consent form, copies of data gathering instruments, letter of appreciation, and letter of approval for research from the school board. When I received a letter of clearance (see Appendix Q) from the Brock REB, I began my study.

Participation in the study was voluntary, and participants had the right to withdraw from the study at any time without any fear of penalty. Participants received a letter of invitation, a consent form, and an outline of the study 2 weeks before the start of the project. Individuals who chose to participate signed and submitted the consent form to me. Participants did not receive any monetary gain from participation in this study. They may, however, have benefited from professional or personal growth as a result of their participation. Upon conclusion of the study, participants received a letter of appreciation for their participation in the study. Participants were asked to meet twice a month from January to June for hourly meetings.

To ensure confidentiality, participants were not identified by name in any documentation; pseudonyms were used. Participants were apprised of the confidentiality

issues through the consent letter. As the principal investigator, I was the only person who had access to the data. Written transcripts were labeled using pseudonyms. A master list of participants and their pseudonyms was stored in a separate and secure location. At completion of the study, all collected data will be destroyed.

Restatement of Problem

This qualitative case study was designed to examine how the collaborative process could contribute to the development of teachers' assessment and evaluation practices. Data were collected over a period of 7 months, using collection methods such as interviews, observation, and documentation. Analysis of the data enabled me to make conclusions about changes that teachers made as a result of their participation in a learning community. Teachers' perceptions of the value of collaboration were also uncovered.

CHAPTER FOUR: RESULTS

The purpose of this research was to investigate the changes that might occur in teachers' assessment and evaluation practices as they engaged in professional learning that was collaborative in nature. Professional learning is most effective when knowledge, attitude, skill, aspiration, and behaviour (KASAB) are targeted for change (Killion, 2008a). The KASAB model is instrumental in demonstrating the process of change and the degree to which teachers have made changes as a result of professional development.

In order to track any change in participants' knowledge, attitude, skill, aspiration, and behaviour, data were collected at the beginning and at the end of the study as well as throughout the duration of the study. Initial data were collected through semistructured interviews and through a questionnaire about current assessment and evaluation practices. Ongoing data were collected through notes taken during the 12 teaching circle meetings as well as through monthly written participant reflections. Final data were collected through semistructured interviews and participant evaluations of the teaching circle process.

Findings

The findings are presented in terms of the five components of Killion's (2008b) model and are presented in the order that they were collected. Killion identifies knowledge as "the conceptual understanding of information, theories, principles, and research" (p. 19). Attitude is defined as "beliefs about the value of particular information or strategies" (p. 19). Skill is recognized as "the ability to use strategies and processes to apply knowledge" (p. 19). Aspiration is categorized as the "desires, or internal motivation, to engage in a particular practice" (p. 19). Finally, Killion defines behaviour

as the "consistent application of knowledge and skills" (p. 19). In this study, change in participants' learning was tracked through their assessment and evaluation practices as well as through their collaboration practices. Change in the participants' learning was tracked through data collected in three stages: at the beginning of the study, ongoing throughout the study, and at the end of the data collection period.

Knowledge

I first looked at the knowledge that the participants held about assessment and evaluation as well as about collaboration. In going through the data that related specifically to knowledge, a number of common topics emerged. Two of those topics were present only in the initial interview but were relevant to setting the stage in establishing the existing knowledge of the participants. In the initial interview, I asked the participants to define assessment and evaluation, and I asked them about their knowledge of colleagues' assessment and evaluation practices. Three topics were present from the beginning to the end of the study, allowing me to track the progression of change in the participants' knowledge. Participants revealed their knowledge about the language curriculum, tools that would be used for the purpose of assessment and evaluation, and the source of their knowledge development. In the progressive and final findings, the source of knowledge development was a result of this collaborative experience. These data are presented in the following sections.

Initial findings. In revealing their understanding about assessment and evaluation, all 7 of the participants demonstrated consistency in their knowledge of the differences between assessment and evaluation. Each participant identified assessment as ongoing throughout a unit of study, with the purpose of assessment to provide feedback to

students in order for them to be successful in their learning of the concepts or skills being addressed. The 7 participants were unanimous in their identification of evaluation as the judgement of a culminating task or a final grade at the completion of a unit of study, determining whether or not students had mastered the knowledge or skills being addressed.

When the participants were asked about their knowledge of colleagues' practices, 6 of the participants knew little about the assessment and evaluation practices of others. In many cases, their knowledge of the assessment and evaluation practices of colleagues was based on casual conversations or on the assumption that colleagues were following school policy. On the other hand, Joey felt that she was knowledgeable about most colleagues' assessment and evaluation practices because she either had collaborated with them or she had gained insights through her role as report card administrator. Sandy offered a possible reason for this general lack of knowledge when she declared that in the past, when she had collaborated with her grade partner, their collaboration did not "have anything to do with assessment, it's more the planning of the curriculum."

Individual knowledge of curriculum was not made clear at the beginning of the study by all of the participants, but it was an area that came into sharper focus throughout the course of the study. Initially, only 3 participants commented on their knowledge of the language curriculum. These 3 participants found the language curriculum to be vague and nonspecific in comparison to other subject-area curricula and were struggling to make sense of it. Joey and Chris were critical of the vagueness of the curriculum, stating that teachers had to develop their own program direction as well as criteria in order to assess and evaluate writing. Terry's objection concerned the similarity of expectations

across the grades, and she indicated that "it seems like we keep teaching the same thing over and over again to the kids, except we're looking for more depth all the time."

With respect to knowledge about assessment and evaluation tools, the participants expressed familiarity with a variety of tools, although the degree of knowledge regarding these tools was not clarified by the participants. Rubrics were the one tool mentioned by all of the participants. Other tools frequently identified were checklists, anecdotal comments, and tests and quizzes. Tools less frequently mentioned were use of exemplars, conferences, portfolios, peer assessment, and self-assessment. Kelly and Sandy admitted to an incomplete knowledge of assessment and evaluation, with Sandy pinpointing lack of knowledge of portfolios in particular, and Kelly candidly offering, "I don't know what else I could be using."

The participants gained their knowledge about assessment and evaluation from a variety of sources. Five of the participants cited workshops as their primary source of knowledge development. Three of the 5 participants found workshops to be a worthwhile experience. Sam felt that "by going to them, it gives you a new idea and you think, oh, I want to get right back in the room and try it." While Terry had not attended any workshops, she did feel that going to a workshop would be helpful to update her knowledge about assessment and evaluation. Additionally, several of the participants referred to an in-school session on current assessment and evaluation practices that was delivered by a board consultant as being very valuable to their knowledge development. Individual participants also cited taking an online course, reading, experience as an EQAO marker, or experience as a literacy lead as contributing to their knowledge about assessment and evaluation. It was interesting to note that only 2 of the participants

identified colleagues as a source of knowledge. Even though she identified colleagues as a source of knowledge, Sandy explained that this was only a starting point, a way to get ideas. She went on to state that if she wanted to learn more about something like portfolios, she would have to seek out information on her own.

Progressive findings. As the study progressed and the participants met on a regular basis, knowledge of the language curriculum was an area in which there was a great deal of discussion. In the early meetings, Alex, Joey, and Terry reinforced initial perceptions that the language curriculum did not provide clear expectations or direction. Joey expressed her belief that language expectations were not clear-cut and that was something that should be established. By the fourth meeting, Chris and Alex mentioned that the curriculum document was being revised and was expected to be completed by the next school year. Chris, who had attended board workshops on assessment and evaluation, shared his belief that the revised curriculum expectations would be matched with specific examples. Later discussions revolved around the revised achievement chart categories of knowledge, inquiry, communication, and application. By the eighth meeting, the group was in possession of the revised achievement chart, and the participants struggled to come to a shared understanding of the definitions of the four categories. Thinking was a new category, and the meaning of application had changed. Chris pointed out that language conventions would no longer be considered a part of application but instead would fall under the category of communication because, in the revised document, application now represented higher order thinking skills. Alex and Sandy commented that application would not be possible if a student were not successful in the other areas. Before the end of our meetings, several of the participants had either

seen a draft of the revised curriculum or had attended a board workshop introducing the revised curriculum. The discussion evolved into trying to match specific expectations with the achievement chart categories. With the assistance of the board consultant, the participants came to realize that curriculum expectations could fall under more than one achievement chart category. A new understanding gained by the participants regarding the revised curriculum was the similarity of expectations among the grades; overall expectations were the same for all grades, and specific expectations were very similar. Chris surmised that an expectation may be introduced for a certain grade in the curriculum and then mastery might be expected for the next year; he concluded that while the expectation itself did not change, greater proficiency was expected.

With respect to the participants' knowledge of assessment and evaluation tools, it was easiest to track change in knowledge about rubrics, which were discussed at every meeting. In particular, by the time we met for the ninth time, the depth of knowledge of rubrics was evidenced clearly by the language used by the participants. Additionally, Alex and Joey mentioned increased knowledge about portfolios, which were discussed at two meetings.

Over the course of the 6-month study, all participants felt that they had gained greater knowledge of assessment and evaluation through collaboration. Sam and Terry identified their degree of change from a small to moderate extent, whereas the remaining participants identified their degree of change from moderate to extensive. All participants found the collaboration to be valuable in terms of sharing ideas, engaging in professional dialogue about assessment and evaluation strategies, or simply as a means of validating what they already knew.

Final findings. Six of the participants made references to how their knowledge about the language curriculum had changed over the course of the research study. Of the 6 participants, 5 felt that they had gained a better understanding of the revised language curriculum, including the change in language and the similarity of the expectations across the grade levels. Chris and Sandy expressed the opinion that their increased knowledge of expectations across the grades enabled them to see beyond their grade level. Sandy declared that this would help her in "seeing how the things you're doing impact, and you start to adjust what expectations are of importance . . . you start to sort of see what's important for their success, not just this year, but down the road." Kelly, Terry, Sam, and Chris highlighted their better understanding of the link between the expectations and the achievement chart. Chris commented, "I continue to expand my own knowledge and awareness of linking expectations with knowledge/skills categories in the achievement charts." Joey may have summed up the feelings of the rest of the group when she stated, "[I've] never known so much about the expectations than through this circle."

Change in knowledge of assessment and evaluation tools was closely linked to knowledge of the revised curriculum for a number of the participants. Several of the participants related their knowledge acquisition of rubrics to curriculum expectations. Alex, Kelly, Sam, Chris, and Sandy identified the connection between rubric development and curriculum-related criteria. Chris stated, "The rubric just forces you to look at the curriculum and make sure that it's purposeful, that it's not just a great idea, but that it's linked carefully to the curriculum." Sam and Sandy both noted that their expanded knowledge of both rubrics and curriculum would enable them to use rubrics for broader purposes and that they would be able to use a specific rubric for more than one

language strand. Sandy said, "I can see now, when you take the time to create a really good rubric, that you get so much more out of it than just one mark." In addition to development of knowledge of rubrics, Alex mentioned that she had learned about portfolios. On the other hand, some participants found it difficult to identify specific shifts in knowledge. For Alex, Terry, and Joey, it was not so much a case of gaining new knowledge but more a validation of or a reminder of existing knowledge. They felt that they had learned more about assessment and evaluation, but they were not able to pinpoint specifically what they had learned. Kelly stated that it's "hard to pick out what is new learning for me over this year." Joey pointed out, "it wasn't a matter of learning anything new as much as it was just picking and choosing and rearranging previous knowledge."

When speaking about knowledge gained through collaboration, several participants referred to the opportunity to engage in professional dialogue as being useful in instructing their thinking about assessment and evaluation. As Alex questioned, "How often do we actually sit down and talk about our teaching?" In particular, Alex, Kelly, and Sandy believed that they had gained a better understanding of assessment and evaluation through the discussion and sharing of ideas. Sandy stated, "I am more aware of using a diverse amount of assessment strategies." Joey expressed an appreciation for the knowledge and expertise of others that added to each teacher's knowledge base.

Attitude

Attitude not only refers to the beliefs or values that a teacher holds about information or strategies; additionally, it may include a teacher's motivation to learn more about a particular topic. Not surprisingly, the participants in this study revealed

their attitudes to be positive and open. In the initial interview, the participants provided data in the following areas: their attitudes concerning their current assessment and evaluation practices, the importance of consistency in assessment and evaluation practices, assessment versus evaluation, professional learning, value of collaboration, and their concerns about collaboration. Concerns about collaboration were pointed out in the initial findings only, and the participants' attitudes about assessment versus evaluation were not present in the final findings.

Initial findings. When asked about their current assessment and evaluation practices, the participants indicated that they were struggling with aspects of their current practices for various reasons. Joey, Chris, and Sandy believed strongly in the value of their existing assessment and evaluation practices, although each of them also mentioned that there was room for improvement. Joey and Chris stated that their professionalism and accountability enabled them to have a certain degree of confidence in how they conducted their assessment and evaluation. Joey's concern with her practices was in the subjectivity of assessing and evaluating student writing, whereas Chris found that assessment and evaluation of student writing was his weakest area, confiding, "I've never felt completely confident about my own ability." Sandy, on the other hand, felt quite assured in her assessment and evaluation practices, stating that she felt she was getting better every year and that she had a better grasp on her practices this year compared to last year. Having said that, she also added that writing is difficult to assess because "you're always looking for different things" and that she was always looking for more guidance in assessment. The remaining 4 participants held less credence in their assessment and evaluation practices. Alex did not think that she assessed or evaluated

very well, adding that she "would like to assess them more, and help them more." Kelly thought that her struggles were a result of her focusing on one area at a time and the difficulty she had in assessing and evaluating writing, leading her to the conclusion that her assessment and evaluation practices could be improved. While Terry was not able to elaborate on her current assessment and evaluation practices, she believed that "they could probably be better." Kelly, Joey, and Sam also believed that there were always changes happening in the area of assessment and evaluation and that they need to be changing their own practices in order to keep up with the new ideas. With respect to the specific changes happening within the school board regarding assessment and evaluation practices, Chris expressed frustration with the slow pace of these changes because he had already implemented these practices when he worked for a different school board.

When asked about the importance of consistency of assessment and evaluation practices across the grade levels, there were varying degrees of consensus. The participants found it problematic that teachers did not have congruent assessment and evaluation practices. Alex posited that she did not "think it's very helpful in terms of helping the kids to move forward." While none of the participants believed that it was necessary for teachers to be identical in their use of assessment and evaluation strategies, they did see the value in "being on the same page," as was cited by Joey and Sandy. Chris and Sandy clarified that teachers should have the freedom to develop their own strategies, and Sandy added that "you should do what works best for you." Where all 7 of the participants did advocate for congruency was in the establishment of similar expectations for assessment and evaluation. Chris pointed out the importance of using the curriculum to design assessment and evaluation. This belief is evidenced most clearly in Alex's

statement "we need to make sure that we are all assessing them on the same sorts of skills, but with progression and continuity so we're building on each other's stuff." Sandy complemented Alex's belief with her own, saying, "I think you can raise the bar a little higher when you know everyone's expecting the same thing and you're all on the same page for what you're expecting."

The participants had very clear attitudes about assessment and evaluation. All of the participants had indicated through their knowledge that assessment provided feedback to the students in order for them to improve their work. Sandy believed that assessment was more valuable than evaluation because it let students know what they needed to do in order to improve their work. Timeliness of feedback was recognized by Alex, Sam, Chris, and Sandy as being a critical component if students were to benefit from the feedback they received. A concern that Alex, Kelly, and Chris had was the degree of effectiveness of that feedback for students. They felt that students either did not know how to use or were not motivated to use the feedback in order to improve their work. Chris noted, "They're happy to grade themselves and give themselves a poor grade, but they just want it to end there." Terry, Sam, and Chris were aware that reteaching or further practice would be necessary if students were not successful after an assessment. In addition, 3 of the participants clarified further that assessment was an essential component of teaching. Sam stated:

> So you teach, you practice, you teach, you practice, and those are the assessments along the way that either tell me where I need to spend more time practicing the skill areas that they already know, so we move forward.

Chris summed up his thoughts on assessment in a more personal way, declaring that "assessment has been kind of a feedback for me, teaching . . . that's teaching to me; assessment is teaching." In terms of evaluation, the participants were not as vocal, but some insights were brought forward by Alex and Joey. Joey believed that in addition to assessment, evaluation was also important in informing teaching practice because she would use the results of the evaluation to plan her next unit of study. Alex saw that the summative tasks that were evaluated at the end of a unit of study gave students the opportunity to "put all these skills into place."

During the initial phase of data collection, discussion about professional learning with respect to assessment and evaluation included the participants' beliefs about workshops and courses as well as collaboration. Of the participants, 4 of them mentioned their beliefs about workshops as a means of professional learning. Alex maintained that she found workshops to be useful because she agreed with the information presented. Joey stated that she takes out of workshops what she thinks will be useful to her but that workshops do not provide teachers with the opportunity for follow-up or reflection. Sam found it useful to attend workshops; they gave her new ideas that she wanted to try out, although she added that she needed to hear the information more than once to understand it. Chris valued attending workshops and learning new ideas or strategies but found it difficult to implement any actual change, stating, "You go to a workshop, you hear something that is fantastic, and you get back to school and everything is sucked out of your brain because you walked in the door and you're right back into what you always do." Terry presented yet a different point of view when she declared that she had not gone to workshops but that she probably should in order to keep current.

The participants also spoke about developing their professional learning through collaboration. All 7 participants valued collaboration as a means of increasing their professional learning. Five of the participants believed that collaboration gave them access to new or different ideas and strategies. Chris confirmed that collaboration is great for picking up "things from different teachers." Alex, Joey, and Terry thought that collaboration helped teachers to build a better program. Terry's opinion was that "it would make your program stronger because some people have certain strengths in certain areas." Six of the participants believed that collaboration would help teachers to develop consistent assessment and evaluation practices. Joey acknowledged that "collaborative planning would require that you're on the same page as the other teachers when you're assessing writing, because the standards for writing are so vague." Sam stated, "It does help when we talk about it and we see the same things are happening in someone else's room." Four of the participants valued using colleagues as a sounding board. Alex pointed out, "You might end up with a better program because you've had a chance to think it through with somebody else, talk it through, work through teaching strategies, assessment strategies." For Sandy, the opportunity to engage in collaboration would lead to change in one's practice. This was evident in her statement that "it's much more effective if a group of people are doing it together, because I think it would be more of a long-term change." Five of the participants cited reduced workload as another positive aspect of collaborative planning. Alex shared her thoughts, "It also shares the workload so that you can brainstorm, but you can split up what needs to be done and come back to the table with your part completed to offer to everybody else." Chris, Joey, and Sam found that collaboration enabled them to be reflective of their practices and provided

them with validation of existing practices. Sam confirmed, "It might even be to validate what you are doing to the other person, so it makes you take a critical look at what you're doing." Finally, Terry commented further that "collaboration . . . just opens up how you do things a lot of the time."

Despite the significance that the participants placed on collaboration, they also raised a few concerns about the value of collaboration. Alex recognized that collaboration needed to be a valuable use of time for those involved. She declared that collaboration would not be a valuable use of time "if it's not productive . . . they've already maybe had that experience, and they don't want to waste their time." Kelly, Terry, and Chris expressed concern that teachers might feel that they are perceived as inadequate in some way by their colleagues. Chris ventured to say, "I think we're fearful of, 'I'm not as good, not good enough, and I might not have to offer,' feel a bit embarrassed about what you do in your program." Kelly half-jokingly added, "You can't ask too many questions of the same person, or it will look like you have no idea what you're doing." Fear of unequal sharing of the workload was identified by Kelly, Terry, and Sandy. These 3 participants did not feel that collaboration would be valuable to them if, as Sandy said, "people weren't working equally and sharing the workload." Three of the participants thought that the value of the collaboration would be dependent on those with whom they might be collaborating. As Sam clarified, "You can run the risk of going head to head with someone's own beliefs and not willing to make any changes." Sandy added, "Maybe the two teachers are very, very different, and they would attack things differently, and just understanding that, because you would do it one way, doesn't mean the other way is incorrect."

Progressive findings. Throughout the course of the study, participants reflected on their current assessment and evaluation practices, focusing for the most part on their attitudes toward the rubric that the group was developing. Sam reiterated her concern that assessment and evaluation should be manageable with respect to time. Sam and Alex were hopeful that the assessment tool created by the group would prove to be time efficient. Alex had started using rubrics as part of her assessment and evaluation toolkit because she believed that they would be less work for her. Four of the participants commented that they felt they "were on the right track" with the development of the rubric as a means of improving their assessment and evaluation practices. Five of the participants indicated that through identification of specific criteria that were in line with the curriculum, students would be better informed about expectations.

Consistency in assessment and evaluation practices really came to the forefront in the biweekly meetings. The participants strongly believed in the value of creating a rubric for writing that would focus on the development of skills from one grade to the next. The value of progression was cited by Alex, Terry, Sam, Chris, and Sandy. One of Terry's earlier concerns was that students learned the same skills year after year; she believed that through the development of this rubric, students would be able to build upon skills from one year to the next. Chris thought that although there would be overlap among the grades, there would be different degrees of working with the skills and that the expectation would be that students would develop "breadth and depth" within those skill areas. Where Joey found value was in being able to differentiate writing skills from one grade to next, as she was responsible for working with all grades. Similar to Joey, Alex and Kelly thought that they would find it valuable to know what the expectations for

different grade levels were so that they could better identify the variety of needs within their own classes. Alex thought the benefit of the rubric would be that teachers would be able to see what the criteria were for students who needed modifications; this, in turn, would help to ensure that she did not teach exactly the same things as another teacher with another grade.

Ongoing discussion about assessment and evaluation continued to focus on assessment for the purpose of providing students with feedback in order for them to complete a summative task that would then be evaluated. Joey and Chris reinforced the importance of providing feedback with formative assessment and that students needed to have the opportunity to learn from their work before they were evaluated. Sandy connected the rubric with providing feedback to the students, stating that they would need to be clear about the criteria and the levels if the teachers were to expect students to use the rubric to improve their writing. Terry, Sam, Joey, and Chris discussed the value of student input in assessment; they believed that students needed to be taught how to provide feedback to one another and that this was a valuable form of assessment. Alex and Sam wondered how many summative tasks would be expected or would be fair to expect in order to obtain an evaluative mark. They believed that one summative assessment would not be enough and that consideration should be given for the possibility of a "bad day."

Discussion about professional learning as it occurred over the course of the study was couched within the framework of the collaborative experience in which the participants were engaged. Six of the participants contributed positive opinions on the value of collaboration as it related to their professional learning. The value of sharing

ideas and resources was put forward by Terry, Sam, and Chris. Alex, Sam, and Chris found the opportunity to engage in dialogue to be valuable to their own practices. Sam discerned value in "new ideas, new ways to think about things, and validating your own personal feeling about assessment and evaluation," while Alex expounded on the "discussion element, raising questions to debate are great." Kelly and Alex were in favour of the ongoing nature of the professional learning, with Kelly stating that it was a "great opportunity to have the chance to use new assessment and evaluation strategies and then come back to the table to learn more about them and how to use them more effectively."

Final findings. When asked about their assessment and evaluation practices during the final interview, several participants were quick to point out that their underlying beliefs had not changed. Four of the participants believed that they had either reaffirmed their existing beliefs or had broadened those beliefs. The one development that Sandy found was that she was more confident in speaking about her assessment and evaluation practices to others. Terry, Joey, and Sam were cognizant of the need to keep up with change in their assessment and evaluation practices. With respect to their own practices, Terry and Sandy felt that they had gained good ideas but were still wondering how they could make their own practices more efficient. Sandy summed up her thoughts on her assessment and evaluation practices with, "I've learned some things, but I still have questions about how I'd like to do it better and more efficiently because that's the part that can take you time." Chris and Sam were confident in value of the time spent working on the rubric, with Sam declaring, "I think we are going in the right direction."

At the end of the study, 4 of the participants commented on the value of consistency in assessment and evaluation practices. The attitudes of Sandy, Sam, and

Kelly were alike in that they believed in the importance of all teachers being on the same page. Sam stated, "We don't all have to deliver the message the exact same way, but the message has to be the same so that the learning on the other end is the same." Sandy maintained, "It was really good also to see that everyone else was questioning the same things or wondering if what they are assessing is at the right level, so it was really good to see that." Alex focused on the importance of progression, "I actually think that was really valuable to find progression through what we're trying to teach, or [whether] there [is] progression or there isn't any progression."

Discussion involving professional learning at this stage in the study tended to focus on professional learning through collaboration, although 1 participant also made a reference to professional learning through workshops. All 7 participants believed that collaboration was good for professional learning. The sharing of ideas and discussion was cited by 6 of the participants as being productive and worthwhile. Sandy's opinion was that "probably most things that I've learned since I became a teacher and even through the courses I've taken haven't been from the teachers but rather just from discussion with my peers, and that's where I've learned the most applicable things." Alex thought that it "helps you think about things that you might not have thought about, or think in a different way."

One somewhat negative issue that arose from the group meetings was the amount of off-topic discussion that occurred during the meetings. Five of the participants spoke about off-topic discussion, referring to the times when some participants were engaged in discussion that was not related to the current discussion. Fortunately, they did not see the off-topic discussion as having interfered with their learning; this was best illustrated by

Sam's tactful comment "with many individual people's input and ideas, the group goal periodically got lost in the multitude of thoughts." Terry complained that teachers, as a profession, are not good at communicating and said that she would like teachers to develop their professional learning by reading professionally. Chris's complaint with more traditional forms of professional learning was that "so many of the problems with some of the professional development we do is that you walk away with nothing in the end except a lot of things to think about."

The participants were unanimous in their opinions of the value of collaboration; the concerns they had about collaboration were the same concerns they had voiced at the beginning and throughout the research study. Four of the participants cited time constraints as an obstacle preventing teachers from engaging in collaboration; Terry clarified that part of the problem was that teachers did not have common planning periods. Expanding further on that belief, Alex, Terry, and Chris strongly believed that collaboration should be built into teachers' timetables. Potential conflict with colleagues was identified by 6 of the participants as a detractor to the value of collaboration. Chris elucidated, "I don't think every teacher is here for the right reason and is committed and dedicated and all those things." Alex added a codicil, "If you're entering a collaborative process, you do have to be committed to what you get out of it, even if it's not exactly what you would like." Ultimately, however, Alex, Joey, and Sam believed in the importance of the collaboration being a valuable use of time for those involved.

Skill

It was difficult to get a clearly articulated picture of the assessment and evaluation skills possessed by the 7 participants. During the initial interviews, the participants

demonstrated varying degrees of skills based on their knowledge of assessment and evaluation which included: assessment and evaluation, use of feedback to improve student work, professional knowledge of student writing, and what they would do to improve their skills in assessment and evaluation. For the 6-month period in which the participants met for teaching circle meetings, two domains of skill emerged: the issue of assessment and evaluation as it related to the participants' abilities to use time efficiently and participants' skills in using specific assessment and evaluation tools. One of the tools discussed, portfolios, was brought up because the participants perceived their skills to be limited in this approach. The second assessment and evaluation strategy on which the participants focused their skill development was rubrics. As development of a rubric was the primary goal of the participants, there was a great deal of discussion surrounding this topic. At the end of the data collection period, discussion about assessment and evaluation practices revolved around: assessment and evaluation, tools used, and the impact of collaboration on skill development.

Initial findings. The participants had previously demonstrated their knowledge of the differences between assessment and evaluation. While the participants indicated that they were trying to move toward implementing ongoing formative assessment followed by summative evaluation as part of their practice, they were at different points in reaching this goal. Five of the participants attested that their assessment and evaluation practices leaned more toward summative evaluation without the formative assessment. Alex stated that she was aware of the value of using formative assessment but did not have time to implement it, and Kelly explained that she was working toward using both formative assessment and summative evaluation but that she was not there yet. Joey also

indicated that her practices were more summative than formative. Chris was in the process of trying to use both formative assessment and summative evaluation, stating, "I started to try to put together more, a lot of little pieces of assessment, and then the culminating task at the end, to gauge their learning." Sam explained how she blended her assessment and evaluation skills: "Once I've done all the different assessments and I want to evaluate, then that's when I do my judgement call, based on a child who has a learning difficulty, or a child who is just moving along at a regular pace or a child who has higher level thinking." The remaining 2 participants had advanced further along the continuum. Terry and Sandy revealed that they used formative assessment and summative evaluation equally. Regardless of their level of proficiency in implementing formative assessment and summative evaluation, Joey, Terry, Chris, and Sam frequently used assessment to guide their instruction, and understood the need to reteach a concept if the assessment showed a lack of understanding on the part of the students.

Use of feedback was recognized by most of the participants as being an essential component of assessment. However, most of the participants struggled with their ability to provide useful feedback to the students. Six of the participants believed that students did not find the feedback to be useful and wondered how they could improve their skills in this area. Kelly and Alex claimed that students did not value the feedback and that they were not willing to make changes to improve their work. Joey and Chris thought that was because students did not want to redo their work; they were satisfied with keeping the initial assessment mark. Sam thought that the only way that feedback was valuable to students was if it was given to them promptly. She found what worked for her was if she

gave feedback in the form of suggestions for reflection as opposed to making corrections for them. Sandy added that it was difficult to get students to be reflective of their work.

Professional judgment was an element that seemed to factor into a number of the participants' skills. Kelly and Terry, who used rubrics based on specific criteria to mark writing, also relied on their opinions of what constituted good writing. Kelly stated that she would look at student writing "where I'm going through and marking for errors and great things." Terry often marked student writing following a similar format, marking for conventions such as spelling, grammar, and use of vocabulary as well as "how well they actually bring their thoughts across." Joey described her use of assessment and evaluation as being less structured and less traditional than that of other teachers. She preferred not to focus on the conventions of writing when assessing or evaluating student writing; instead, she declared, "I'm always interested to see how they've taken the information that they've gleaned and then reiterated [it] in their own words and rewritten them, and how expressive they've been, and how accurate they've been able to express themselves." Alex used her experience as an Education Quality and Accountability Office (EQAO) test marker to frame her expectations for student writing.

All the participants listed a wide variety of strategies that they employed as a means of assessing and evaluating student writing. When asked to comment on their skills in assessment and evaluation, 4 of the 7 participants deemed that there was room for improvement in their practices, while 2 other participants, Chris and Sam, were satisfied with their current practices but were also willing to learn more strategies. Alex, Kelly, Terry, and Sandy conveyed a need for improvement in their assessment and evaluation skills. Alex indicated a vague awareness that her assessment and evaluation

skills were not exhaustive, stating, "Some of the things I know are good practice I'm not doing." Kelly was not sure what she could be doing to improve her assessment and evaluation skills, but she expressed a desire to be able to assess student writing more effectively. Terry perceived that her assessment and evaluation practices could be better, without explaining specifically how, but also stated that she would be willing to make changes if she learned new strategies. Sandy was specific with her skill development plan, noting that she would like to learn how to use portfolios and self-assessment more effectively. Additionally, Alex, Terry, and Sandy wanted to develop better skills in the management of assessment and evaluation in order to use their time more competently.

Progressive findings. Participants' assessment and evaluation skills, as a focus for discussion, appeared briefly during the teaching circle sessions. For a portion of the third meeting, the topic of discussion was time management, with the participants wondering how assessment and evaluation could be handled more efficiently. Terry, Chris, Sandy, and Sam agreed that it was not necessary to mark all writing that students completed. Sandy added that she preferred to at least look over all the writing that her students completed so that she could assess their comprehension of the task. Sam interjected that in between formative assessment and summative evaluation, she provided students with comments and suggestions, and then the students were required to resubmit their work for summative evaluation. She added that she found this to be very time-consuming. Chris further commented that it would take too long if he was to look at everything that students wrote, so he looked for specific criteria. This conversation carried over into the fourth meeting, where Alex observed that in order for her to be able to provide students with frequent feedback, perhaps not marking all students' writing would be the answer.

Chris reiterated that by looking for specific criteria in a piece of writing, he would be able to give feedback based on just select criteria, not on the entire piece of writing.

Assessment and evaluation tools that were addressed during the teaching circle sessions included portfolios and rubrics. Portfolios were brought up to address questions the participants had about their use. This topic was broached during the first meeting and then again during the sixth meeting. During the first teaching circle session, implementation of portfolios as an assessment and evaluation tool was suggested as the group goal. Sandy suggested that the group could develop common criteria for the assessment of the writing that would be kept in the portfolios and that the portfolios would move with students to the next grade. Alex thought that this could be a useful tool to develop; Sam agreed, but raised a concern that portfolios had been used previously and subsequently abandoned. Discussion then proceeded to revolve around the purpose of the portfolios, whether the portfolios would be showcases for student work or an assessment tool. Chris added that he thought that the portfolio could be used as a framework for student writing for the year. Taking Chris's thought one step further, Alex proposed that portfolios could be used to make writing assessments more valuable to the students. Sandy added to this premise, stating that the writing pieces could be taken directly from the board's literacy guidelines. There was more discussion about the purpose of the portfolio, perpetuated by Alex, Chris, and Joey. This initial conversation on portfolios ended when Chris and Sandy realized that development of portfolios as an assessment and evaluation tool might be beyond the scope of this group.

Portfolios reappeared as a topic for discussion during teaching circle sessions 6 and 7. The session 6 discussion about portfolios was brief; it was primarily a reiteration

of the first discussion in which the participants focused on the purpose of the portfolio. Chris submitted the idea that the writing samples in portfolios could be used on an ongoing basis throughout the school year. General consensus among the participants was that portfolios would be best served if representative of student writing abilities. Alex was interested to find out how to implement portfolios in her classroom. I ended this meeting's conversation by stating that I would research portfolios and bring back information for the participants for the next meeting. At the next juncture, the discussion was more of a sharing of information about portfolios as I presented a brief summary of portfolios in the form of a handout. Part of the information provided to the participants was how to implement portfolios in the classroom and the importance of establishing student ownership in assessment of the contents of the portfolios. Alex likened the use of a portfolio to writer's workshop, where students are immersed in writing and some pieces of writing are taken through to completion and some are not. Alex and Sam expressed concern that students would need to "buy into" the value of the portfolio or it would not be a successful tool. The conversation on portfolios ended with a brief discussion about lack of time being an obstacle to implementing portfolios.

Rubric development formed the bulk of discussion during the 12 teaching circle sessions. Because so much time was spent on talking about and developing rubrics, I have categorized the discussions in the following manner: criteria, narrative rubric, and validity of the rubric. Meetings 2 through 6 focused on the development of criteria for the rubric. It was during the second meeting that Joey, Alex, Sandy, and Sam indicated that they often developed criteria for rubrics on their own and that there was a lack of consistency in rubric criteria within their own classrooms as well as across the grade

levels. During the third meeting, the participants took a closer look at three sample rubrics I had sent to them prior to the meeting. The criteria in the rubric had been derived from the board's literacy guidelines. Sam had had the opportunity to use one of the rubrics, and she had found it to be satisfactory. She was pleased that she did not have to change any of the criteria. Alex suggested that she would like to see a list of next steps or suggestions added to the rubric so that she could highlight relevant items. In the fourth meeting Sam continued to share her experimentation of the rubric with the rest of the group. This time around, she modified specific criteria to suit her own classroom needs but tried to follow the sample rubric as closely as possible. She also discovered that even though the rubric was initially designed for writing, she was able to use it for oral and visual communication as well. One question that arose during this discussion was the ambiguity of the curriculum expectations; Joey and Alex were concerned that specific grade expectations were not clear. Chris and Alex informed the group that the language curriculum was in the process of being revised and that the revised curriculum would have grade-specific expectations. At the fifth meeting, Sandy suggested that instead of developing one base rubric to address all grades and writing genres, the group should develop rubrics to go with specific grades and specific writing genres. It was decided that the group would work from the sample rubric and modify it to meet specific genre expectations. By meeting 6, discourse about criteria narrowed in on differentiation across the grades. Alex pointed out that, as teachers, they trusted that they were helping students to progress in knowledge and skills from one grade to the next; she wondered if that was being accomplished. From this point, Joey, Sandy, and Alex discussed the importance of specifying writing expectations for each grade. Joey added that this knowledge would be

important for teachers switching grades as well as for students to know what was expected in their writing. Sandy brought out her version of the sample rubric that she had modified for use in her classroom, and the group agreed to use it as a starting point. Sandy had used her professional judgement, based on observation, to determine specific criteria for the grade level she taught. Looking ahead, Joey and Sandy predicted that the group could end up with a set of grade-specific rubrics that could be accessible to teachers of all grades, who could use different rubrics for students who were not performing at grade level. A decision was made by the group at the end of the meeting to focus on developing a rubric for narrative writing.

Sessions 6 through 11 specifically addressed the narrative rubric. Once the participants had decided to focus on narrative writing in session 6, the question arose of how to differentiate between a grade 4 narrative writing and a grade 8 narrative writing. Alex thought that the difference might be in the complexity of the writing. Joey suggested that it might be beneficial to use the *First Steps Writing Developmental Continuum*, as it provided indicators for all stages of writing. During meeting 7, time was spent looking at a generic narrative rubric and the developmental continuum. Within the First Steps® resource, there was continuum that was specific to narrative writing entitled *Narrative Indicators*. The narrative indicators identified narrative writing skills through 4 stages of writing proficiency: beginning, developing, consolidating, and extending. The participants discussed how to connect the narrative indicators with the language curriculum. Alex and Sam thought that they should select specific criteria from the curriculum to target. Alex raised the concern that there were no specific criteria for genres of writing that differentiated one grade from another. Kelly and Sandy suggested

starting with a generic rubric and modifying it to make it applicable to narrative writing, and then the participants could decide which criteria would be appropriate for each grade. Sam indicated that in her experience, she expected grade 8 students to be able to write with more complexity and sophistication than younger students would be able to do. At the eighth meeting, after having examined the narrative indicators, the participants determined that students in any given grade could be at a variety of developmental stages. Joey suggested that the participants had to move away from the idea that all grade 6 students must be at the grade 6 level; she did not feel that this was realistic. The participants decided to begin with the development of a grade 4 narrative writing rubric. They concluded that if they started with grade 4 criteria, they could build upon the progression and complexity for the remaining grades. We spent some time talking about the organization of the rubric, what the specific headings for the criteria should be. Chris and Sam suggested that we start with the achievement chart headings, followed by curriculum expectations and then specific indicators. The participants wondered if the expectations could be matched to the achievement chart categories. A fair amount of time was spent debating the specificity of the criteria to be used and under which headings they should be placed. Alex and Chris determined that in trying to fit all the criteria under specific achievement chart categories, we were making our task unnecessarily complicated. In the meantime, Sandy had been working on the grade 4 rubric, using the curriculum expectations and narrative indicators, trying to match them with the achievement chart categories. Sandy explained that she had not focused too much on the genre of writing, and therefore the remaining rubrics would not be that different from one another. We decided that the next step would be to work on the grade 5 rubric, building

upon the newly created grade 4 rubric. At the ninth meeting, the participants broke off into paired groupings to work on the remaining rubrics, with the idea that once all rubrics were created, the group could look at and modify them together. Before moving off into the groups, there was some whole-group discussion. Chris suggested that the group needed to decide on whether or not to use qualifying words to distinguish the criteria from one grade to the next. There was also discussion about using criteria specific to the narrative genre of writing and how that would change from one grade to the next. Alex thought that the differentiation should be noted in the complexity of the writing, that it would be too much to include that level of detail in the rubric. Chris and Alex thought that repetition of criteria across the grades would be appropriate because teachers would look for greater proficiency of those criteria in progressive grades. By the 10th meeting, first drafts of all the rubrics had been created, and the group met to compare the rubrics and make modifications to ensure that the rubrics were in line with one another. Most of this discussion revolved around the participants trying to clarify the definitions of the achievement chart categories; there was a great deal of uncertainty regarding how to align the criteria with the categories. Present at the 11th meeting was a consultant from the board. One thing we were able to do with the assistance of the consultant was to clarify the definitions of the achievement chart categories. As a result, we talked about rearranging criteria so that it fit the revised definitions of the achievement chart categories more effectively. The consultant suggested that we look at expectations holistically; some were more complex than others, and so she thought we might want to cluster them. We came to the realization at this meeting that our rubrics did not match the revised language curriculum, which we now had access to in draft form. This caused

some consternation, and some of the participants began to wonder if we should continue with what we had or instead just create one generic rubric. Joey thought that time we had invested in going through the *First Steps Writing Developmental Continuum* was still valuable and that we should take the specific criteria that we had gathered from that resource and put them in the appropriate categories in the rubrics. She added that because we had spent so much time looking at the developmental stages of writing, we should be able to identify what students would be able to do at each grade level. We met later that same day to conclude our work on the rubrics. We decided to break into groups again to look closely at the five rubrics to verify that the criteria were in the appropriate categories. We realized that the rubrics were not going to be completed at this point. It was decided that we would leave the rubrics as they were and, if possible, revisit them in the fall.

The validity of the rubric was briefly raised in meetings 6 and 7 and addressed again in greater detail during meeting 11. Sam brought up the issue of validity of the rubric during meeting 6; she thought the group should ensure that the rubric was legitimate. Validity was again addressed in meeting 7. A suggestion that a secondary school teacher could check over the completed rubric for validity was discounted by Alex, who pointed out that a secondary school teacher might not be aware of the developmental stages of elementary students. With the addition of the board consultant at the 11th meeting, we ended up addressing the issue of validity in greater depth. We were able to draw upon her expertise to corroborate the work we had done to this point on the rubric. She also had attended several meetings with the Ministry of Education and so was well versed in the intricacies of the revised curriculum. Part of this final meeting was

spent with the consultant clarifying questions about the curriculum. The consultant was enthused with what the group had created; she thought that what we had done was impressive because we could show differences from one grade to the next. She confirmed, as some of the participants had previously indicated, that it was the complexity of the writing that would change, rather than the curriculum expectations. She further confirmed that she thought that we were on the right track with the rubric and that now we needed only to revisit and make sure that all of the criteria were in the appropriate categories. She cautioned us that assessment was too complex to make it into a formula and that it was important that we used our own professional judgement, provided that it was framed by professional knowledge.

Final findings. While I did not specifically ask the participants about their progress in formative- and summative-based assessment and evaluation, the change in their use of assessment and evaluation was evidenced by 5 of them who volunteered information on how their perceptions of formative assessment and summative evaluation had changed. Alex saw assessment as a way for students to become engaged in the assessment and evaluation process and that on the heels of assessment opportunities for lesser tasks, summative evaluation of a culminating task really would be a true measure of what the students had learned. Terry, who had initially used formative assessment and summative evaluation equally, indicated that her stance had changed somewhat: "I do formative things, but they don't count for as much. I look more at a summative result at the end." She then qualified this statement by saying that she was having difficulty in keeping up with the ongoing assessment: "I can't figure out a way to do it efficiently." Sam demonstrated her awareness of the importance of the ongoing assessment because of

the all-encompassing nature of the summative task. Sandy's awareness focused on assessment. She had always understood that the summative evaluation was the big piece at the end, but she had come to the realization of how important assessment was to helping students to improve.

Evidence of skill development in terms of assessment and evaluation tools was, for the most part, vague. Alex learned how to use portfolios, although she clarified her knowledge by stating, "Part of it is that you know this in your head, but do you do it?" To Alex, it was more a matter of being reminded of what she already knew than having learned more about how to apply new strategies. Kelly, who had originally declared that she did not know what she did not know, specifically mentioned learning about and using a wider variety of strategies to assess and evaluate. Terry could not isolate what specific skills she had developed; they were already a part of her practice. Joey thought she had merely rearranged what she had already known. Joey identified that having a better understanding the curriculum enabled her to mesh the curriculum with the writing skills of students at differing stages. Sandy thought she had honed her assessment skills, especially with respect to conferencing and self-evaluation.

All 7 participants were confident that they had developed their skills with respect to creating and to using rubrics. Kelly, Chris, and Sandy found that their skills in the creation of rubrics had improved, discounting their own previous efforts as being haphazard and baseless. Six participants credited their enhanced knowledge of the revised Ontario Language Curriculum and the *First Steps Writing Developmental Continuum* with enabling them to develop a rubric that was based on sound principles. Chris, Sam, Sandy, and Kelly confirmed that they used their knowledge of the curriculum to

determine criteria and achievement levels, while Joey and Alex used their knowledge about different stages of writing. Joey confirmed her development, proclaiming that she had come "to a concrete understanding of what is expected of a child, in writing, at a certain age." Alex, Kelly, Joey, and Sandy thought they were better able to meet the needs of all their students because they could see what skills the students needed to improve and could help them to make progress toward achieving these skills. Sandy spoke for all of them when she said, "As you're creating these rubrics, you're seeing the connections from [grades] 4 to 8, so you're seeing how the things you do impact, and you start to adjust what expectations are of importance." Alex added, "I think those rubrics, if nothing else, will help [outline the skills] so I know what they're teaching in grade 4, so hopefully in grade 6 [the targeted skills] become clear."

Two unintentional, but fortuitous outcomes arose from the participants' rubric-building experience. First, Alex, Sam, Chris, and Sandy found that they were able to create a rubric that had gone from evaluating one strand in language to evaluating multiple strands and that even included other subject areas, which they noticed served them better in the long run. Sam justified the reasoning for this approach: "When you are taking all the time to do a project, you need to be sure you get marks in as many different areas as possible because it's a long process to correct a written summative." Alex indicated the benefit to creating an all-encompassing rubric: "It just made me think that it's nice to be able to teach them things in part of a bigger context . . . it just had so many different applications." The second unexpected outcome, detected by Sandy and Chris, was that they were able to create an assessment tool that matched the task.

Four of the participants were convinced that collaboration had an impact on their skill development. Alex pointed out that "talking about it is making me think about it more, which I think is good." Chris found collaboration helpful to reaffirm or disavow his existing skills. Sandy credited the collaborative process with giving her "very applicable skills for creating rubrics." Joey thought that having the input of a variety of different-grade teachers helped to save time while developing the rubric because those teachers were able to share their expertise regarding what reasonably could be expected at each grade level.

Aspiration

It was interesting to note that in terms of aspiration, there was relatively little consistency in the participants' motivations or intents from the beginning to the end of the study. In the initial interview, when identifying their aspirations regarding their assessment and evaluation practices, the participants had responses in the following two categories: willingness to change assessment and evaluation practices and how they would change their assessment and evaluation practices. Participants also identified specific goals for themselves surrounding their assessment and evaluation practices. Within the context of their desire to collaborate with colleagues, all 7 participants were very enthusiastic about collaboration and had high expectations of what they hoped to gain from this collaborative experience. Ongoing aspirations of the participants were noted primarily through monthly written reflections, and to a lesser extent, from notes taken from the teaching circle meetings. Aspirations at this stage of the study included a group goal, specific individual goals, individual intentions about implementing newly acquired assessment and evaluation knowledge and skills, and the impact that the

teaching circle process had on their aspirations. Based on discussions that arose at the monthly teaching circle meetings, the participants were motivated to make changes to their assessment and evaluation practices and expressed their intent with regards to the use of the group-created rubric. As for intent regarding collaboration, participants indicated why they were motivated to engage in this collaborative experience and in future intentions to collaborate.

Initial findings. To varying degrees, all 7 participants were willing to make changes to their assessment and evaluation practices. Kelly, Joey, Sam, and Sandy were unconditional in their desire to learn about and potentially adopt new strategies. Sandy's response was reflective of all 4 responses when she declared, "Oh, I'm willing. Ready, willing, and able." Joey added, "I'm always game to try something new and change," while Kelly fired off, "Update away, that's great." Sam added her thought "I think that there's always room for change." Alex, Terry, and Chris were slightly more cautious with their responses, as Terry stated her willingness to make changes with the caveat that opportunities to learn were provided during the school day. Alex was willing to make changes to her assessment and evaluation practices with the following provision: "I am very willing to change them to something I see as either an improvement on what I'm already doing or valuable to how the students will learn." Chris declared that if he were exposed to someone else's ideas and they looked good or interesting, then he would be willing to give them a try.

The participants varied considerably in what they would be motivated to change in their assessment and evaluation practices. Three of the participants were desirous of making general changes to their practices. Joey's response was the most generic of all the

participants. Without identifying any specific changes that she would like to make to her assessment and evaluation practices, she intended simply to make changes as she saw fit. Sandy was looking forward to getting "more ideas on ways of doing it, so that I'm not just using the same thing over and over." Chris found his assessment and evaluation practices to be the weakest area of his teaching and was just hoping to find some help to "tool" his practice. Alex and Terry hoped to make better use of formative assessment practices. Terry was thinking about implementing student conferencing, and Alex wanted to incorporate formative assessment more often so that she would be able to help her students more. She also believed that if she were more explicit in teaching writing, then students would be better able to learn and improve their writing based on feedback. In looking closely at their assessment and evaluation practices, Sam, Sandy, and Kelly wished to improve the management of their assessment and evaluation practices. All 3 participants expressed a desire to improve the timeliness of their practices. In reference to the marking workload, Sandy said that "it can get to be quite a bit, so I think looking at more efficient ways of managing it. I would be looking for ideas there." Sam added that because of the time involved in assessing and evaluating student work, she would like to be able to get students' work back to them in a reasonable amount of time while still taking care to give the students fair and accurate feedback. Further to the issue of timeliness, Kelly wanted to be more effective in changing students' writing while also developing more confidence in her own professional judgement of student writing.

All 7 participants eagerly looked forward to collaborating with colleagues, with 5 participants viewing collaboration as a means of improving their practices. Alex saw the value in being able to "see different things, think about different ideas, see how other

people would do it." Terry felt that having the opportunity to see others' viewpoints would be beneficial to making teachers' practices more visible and accessible, and that in turn would improve teaching. To Sam, the sharing of ideas between newer teachers and more experienced teachers provided a balance between the ideas and enthusiasm of youth and the knowledge of experience. Chris strongly believed that collaboration should be part of a teacher's professional practice because it would make a teacher's life easier. Sandy's opinion was that teachers' practices would improve as teachers learned from one another and worked together to set collective goals for improvement; she believed that a group effort would be more effective and might lead to a long-term change.

The 7 participants had high hopes and expectations for what they hoped to gain from the collaborative experience. Joey anticipated, "It's great, it's lots of fun, it's invigorating, it reinforces your beliefs as a teacher, and it allows you to grow, I think in all sorts of different ways." Along the same line, Sam thought, "I think people will come away recharged with new ideas and possibilities." In addition to learning more about assessment and evaluation strategies, Alex was looking forward to having the opportunity to engage in discussion and debates with colleagues "about professional issues relating to assessment as well as gain good practice" and generally be able to talk about assessment philosophy as opposed to problem solving. Terry was more pragmatic, expressing a desire to "cut to the meat of things." She wanted to improve the efficacy of her assessment and evaluation practices by not reinventing what was already available and learning to manage her existing practices more effectively. Similarly, Kelly expressed a desire to develop her skills in assessment and evaluation, primarily to "have some more options and just be able to be assessing accurately." Sandy looked forward to being able

to reflect on her existing practices: "At first I'll start to question am I doing this right, do I really have the right idea of what I'm supposed to do, and then, learning more about other ways to do things, and then also realizing what I am doing right, and then what I can do differently." Chris brought in the sense of obligation and commitment that he would feel as part of a collaborative group, that he would make the decision that this was something to which he was willing to devote time and therefore it was important to do.

When specifically asked how the collaborative process might impact their assessment and evaluation practices, the 7 participants provided a variety of responses about what they hoped to gain from the collaborative experience. Six of the participants expected to benefit from the knowledge of their colleagues. Alex and Chris referred to the knowledge of others in the group in terms of what they might have to offer and their hopes that they could gain greater insight into their own assessment and evaluation practices. Terry believed that "it would make your program stronger because some people have certain strengths in certain areas, so you would be able to get something maybe good from them, and you could share things that have worked well for you." As a relatively new teacher, Kelly felt that she stood to learn a great deal from the others in the group and expected that she would learn more than she would be able to offer. Joey and Sam felt that the sharing of knowledge could generate only more ideas.

Kelly, Alex, and Sandy were optimistic that through collaboration teachers' assessment and evaluation practices would become more congruent. Kelly hoped that "we'll be more on the same page with what we're doing, which could turn out to be useful." Alex added that she would like to see a building of skills from one grade to the next so that students in different grades would be completing tasks that matched their

curriculum expectations. Sandy believed that having congruent teaching practices might help her to "maybe align what I do a little more with what [subsequent teachers are] looking for, so that it's not as dramatic of a shift for them and for the students." The remaining 4 teachers were less committal at this point about the desire for congruency of practices.

Progressive findings. As part of the teaching circle process, the participants were asked to set specific goals for what they expected to learn from this process, both collectively and individually. Selection of a collective group goal was decided upon at the first meeting in order to guide the focus of the remaining teaching circle meetings. Initially, there was some discussion about developing criteria for assessment of portfolios. Participants thought portfolios would be useful to track the progression of student writing over the years. While several of the participants were interested in heading in this direction, 2 of the participants did not contribute to the discussion, nor did they appear to be interested in the discussion. In fact, it was difficult for the entire group to reach consensus about where to go with portfolios because the concept was so broad. After some discussion, Sandy suggested that instead of focusing on portfolios, the group could collect samples of student work at different levels and create exemplars and rubrics for specific genres of writing. The rest of the participants concurred and decided that the collective goal would be to create a set of rubrics for specific genres of writing for students in grades 4-8 that would reflect the progression of expectations from one year to the next. A secondary goal would be the collection of student writing that could serve as exemplars.

At the end of the first teaching circle meeting, participants were asked to set goals for themselves with respect to their assessment and evaluation practices and to bring those goals to the next meeting. The individual goals were based on participant needs or desires, and as a result, varied significantly from one another. Two participants wanted to look more closely at the efficacy of their assessment and evaluation practices, 2 participants desired to deepen their knowledge of assessment and evaluation, and the remaining 3 participants wanted to learn more about using portfolios as a method of assessment and evaluation. Alex and Terry wanted assessment and evaluation to be more effective for their students. Alex's goal focused on assisting students to make better use of teacher feedback to improve their writing, while Terry directed her goal toward improving her use of peer editing. Chris and Kelly had similar goals in that they wanted to expand their knowledge of assessment and evaluation practices. While Chris set a very broad goal of developing knowledge and skill about designing assessment and evaluation tools, Kelly was slightly more specific in her desire to learn two new assessment and evaluation tools in order to become better rounded in her use of assessment and evaluation strategies. Joey, Sandy, and Sam aspired to develop the use of portfolios as an assessment and evaluation tool. Joey wanted students to be able to use portfolios as a means of improving their work. Sandy wanted to use student work as exemplars in addition to using those writing samples to guide student writing. Sam wanted to use work kept in the portfolios to teach students how to become more reflective of their work. Additionally, she wanted to simplify evaluation of student work with rubrics that would be user-friendly for students and teachers.

While there was very little discussion or reflection during the teaching circle meetings about individual goals, participants did discuss and reflect on the group goal on an ongoing basis. By the second meeting, discussion revolved around participants' desires to develop rubrics specific to each grade and writing assignment and the need for identification of specific expectations, with Joey, Chris, and Alex advocating for this modification. Terry added that skills needed to be progressive one from one grade to the next so that teachers were not teaching the same skills year after year without growth, because she was concerned that the English curriculum did not provide the structure that would allow for skills to be developed. By the end of January, the participants were immersed in the development of the rubrics, and their enthusiasm for the rubrics was expressed in their written reflections. In March, Alex was anxious to have a work session in order to spend more time in developing the rubric, and Joey was looking forward to seeing specific grade-level expectations. By April, Kelly was anticipating completion of the rubrics and by May, Sam was hopeful that the new rubric design would be a productive new tool for assessment.

In addition to the selection of specific goals, participants expressed how they intended to implement what they had learned about assessment and evaluation as a result of the teaching circle discussions. Three of the participants indicated that they were motivated by what they had learned about assessment and evaluation. By the end of the first two meetings, Sandy declared, "I am hearing about great ideas and wanting to try new ideas." Later on in the year Sam commented, "Every time I leave the circle meetings I am motivated to try something new that has been presented." Joey, while enthusiastic about what she was learning, was careful to qualify her response with "the ideas are

fantastic but it is one of those things where you are unable to implement because of time." Alex, Kelly, and Terry also noted that they were experiencing difficulty in implementing new ideas about assessment and evaluation due to lack of time. Despite obstacles in immediate implementation of new strategies, 6 of the participants expressed intent to implement new learning in future planning. Sam was the only participant to convey a dissenting opinion, but her opposition was due to the specific nature of the assessment tool. "If we design rubrics for different aspects of written English, I may not be able to apply any of this information to French," she articulated.

From the participants' involvement in this study a unique situation arose which would have an impact on their future collaboration. Chris and Sandy, who were members of the school's Directions Team, had introduced what the group was working on with respect to assessment and evaluation at one of the Directions Team meetings. The principal and the other team members were interested and impressed enough with the direction in which the group was heading with assessment and evaluation to allocate time in the upcoming school year for all teachers to work collaboratively. The plan was for grade or division teams to meet three times during the year for half-day sessions to develop common assessment tools. In terms of this group of teachers continuing what they had started, Chris suggested and Alex concurred that they could take the rubric that they had created to this point and further develop it, specific to grade writing tasks.

One of the questions I asked the participants to reflect upon each month was whether or not the teaching circle meetings were having an impact on reaching their goals. Five of the participants indicated that they would initiate change to their programming or planning based on what they had learned through teaching circle

discussions. Alex thought that she would restructure her lessons, Kelly speculated that she would change her method of planning, and Joey, Sandy, and Chris revealed that they would change the way that they created rubrics. On the other hand, in terms of reinforcing what she was already doing, Sam believed that "group discussions related to writing assessments either validate my assessment marking or offer some new ideas to think about."

Final findings. Five of the 7 participants indicated that they would make changes to their existing assessment and evaluation practices. Joey and Alex felt confident that they would be able to apply the knowledge gained from our teaching circle sessions to future development of assessment and evaluation strategies. Alex likened the group discussions about assessment and evaluation to "setting up stepping stones" and credited the discussions for strengthening her resolve and providing her with some strategies to use. Joey planned to take what she had learned even farther, stating, "I am planning to use my knowledge of children and what I get from my colleagues to develop assessment strategies that are specific for grades in other areas as well in language, not just writing." Kelly, Chris, and Sandy were steadfast in their assertions that they would change the way they developed future rubrics based on the work and discussions of the entire group. The 3 participants compared how they used to create rubrics with what they had learned and found that their previous methods fell short. They discussed the direction in which they would prefer to move, with Chris and Sandy identifying the amount of time spent on creating rubrics as one of the elements they would change. Sandy added, "The value to me is that that's how I will create rubrics from now on, because I can see now, when you take the time to create a really good rubric, that you get so much more out of it than just

one mark." One further change to existing assessment and evaluation practices was identified by 3 of the participants, Alex, Kelly, and Chris, who declared that they would focus their assessment and evaluation practices to include more formative and summative assessments and evaluations. Alex stated, "I like that whole idea of coming up with a finished product that is your big evaluation."

While 2 of the participants did not specifically identify any strategies or practices that they would change or implement, one of them, Terry, did clarify that she thought there were a lot of good ideas about assessment and evaluation that were introduced, but she struggled with the issue of time. For her, efficient use of time was an essential component of her assessment and evaluation practices, and she just could not fathom how to implement new or different strategies effectively. Sandy, too, questioned how to implement assessment and evaluation effectively, stating, "I still have questions about how I'd like to do it better and more efficiently because that's the part that can take you time."

When asked about their intent to use the rubric created by the group, all 7 participants replied affirmatively. Alex, Joey, and Sandy were content with the current condition of the rubric and professed that they would use it as it was. Sam, Terry, Chris, and Kelly believed that some adaptations might be required. Terry and Chris, in particular, mentioned that they would make changes to the rubric in order to be able to use it in other subject areas.

When I asked the participants about their reasons for engaging in this collaborative experience, 5 participants provided responses that encompassed doing it for themselves and for the enjoyment that they experienced from the process. Alex, Joey, and

Chris professed that they got involved because of what they thought that they could get out of it. Alex was motivated by the opportunity to engage in professional dialogue as opposed to mere problem solving. Alex was also engaged because the process was driven from the bottom up, "but really, it's not about doing it `cause your principal wants you to, it's doing it because it's important." Similarly, Joey's motivation was internal: "We were doing this really for the benefit of ourselves as opposed to, you know, we needed to get this done." Chris was able to mesh his participation with his own professional goals: "I specifically got to meet an objective in my annual learning plan, one of my, in my annual plan is collaborating and meeting . . . and this to me is equally or if not more important than any other in-service that I've gone to this year." For Sandy, Kelly, and Chris, they attributed personal enjoyment and satisfaction with their motivation to collaborate. Sandy asserted, "I think the big thing that made it so appealing to us was that we did go to . . . and that it was informal . . . because it was done in this way, it was more like a time just to gather with friends and to enjoy conversation, but the conversation in this case had a direction." Chris further clarified with "For me, I could have easily said no, right? We know each other, but we're not long-time acquaintances, and I know I looked forward to doing it." Kelly and Sandy mentioned how conversations that were started at the teaching circle meetings would be picked up in impromptu sessions back at school.

All 7 participants affirmed that they would continue to collaborate in the future. Kelly and Sam did not elaborate upon their responses, Joey, Chris, Terry, and Sandy did elaborate, while Alex's response was conditional. Joey's motivation to continue stemmed from her enjoyment of working collaboratively with others. She stated, "I really enjoy talking to other people about work, and I enjoy my work; I enjoy what I do, I enjoy

teaching. I enjoy the idea of working with a group of people that I like, to achieve positive results, positive goals." Terry professed that "any way you can get collaboration in" was something that was important to her. Chris and Sandy identified what they gained from the experience as reasons why they would continue. Chris explained, "I like the relationship we struck with the people you're working with, outside of school. I like the opportunity to dialogue, plus you get to walk away with something that's actually useful, which is by far the most important part of the whole thing." Sandy added, "I would participate again because it was an opportunity to learn a lot, and it was also, not just about learning things, it was applicable information. So, I was immediately able to come back to my classroom with some of the things I was learning and start to implement them." Alex, on the other hand, was more reserved in her response, "I think I would . . . as long as I found it useful to what I wanted to work on, and the people I was working with I found would help contribute to my goal . . . if it's not useful for what I want to do, then I might not be interested."

When asked about how they would collaborate in the future, 6 of the 7 participants provided responses. While Alex, Kelly, Joey, and Sandy made references to collaborating informally (for example, planning with a grade team partner), Terry's and Chris's comments were directed more at the collaborative process that we followed. Terry's preference was that future collaboration not be "quite as formal." Terry indicated on more than one occasion that while she enjoyed the collaborative process we followed, she preferred to collaborate in an unstructured format. Conversely, Chris preferred the structure of the teaching circle, stating, "I think the key in a school to having a collaborative environment is to actually use the teaching circle. . . . You need to have not

just a goal, but someone to keep you on track or a process to keep you on track." Kelly also indicated that she would find it beneficial to incorporate some of the structure associated with the teaching circle into team meetings.

Behaviour

For the purposes of this study, the behaviour in which I was interested consisted primarily of the assessment and evaluation practices of the participants and, to a lesser extent, their collaborative practices. In the initial interview, several details about the participants' assessment and evaluation practices were revealed: current assessment and evaluation practices including tools used and tools not used, using formative assessment and summative evaluation, using feedback to improve student writing, congruency of their practices with those of their colleagues, and current collaboration practices. Throughout the teaching circle process, I looked at the assessment and evaluation tools that participants used over a 5-month period to see if there were any changes in the tools they used. I examined the degree to which they believed they had changed their assessment and evaluation practices as well as the specific changes they identified. At the final interview, participants were again asked questions about their assessment and evaluation practices. As a result of the questions asked, participants revealed changes that they had made in their assessment and evaluation practices, including changes to how they developed rubrics and obstacles that prevented them or hindered them from making changes, and changes to how they engaged in collaboration as a result of this collaborative experience.

Initial findings. The participants identified a variety of tools that they used for the purposes of assessment and evaluation. Rubrics were the one tool that all 7 participants

pinpointed as being part of their current assessment and evaluation repertoire. Tests and anecdotal records were used by at least 3 of the participants. Tools used least frequently, by 1 or 2 participants, were checklists, portfolios, and peer- and self-evaluation. It was more informative to note what assessment and evaluation tools were not considered to be part of the participants' current practices. Neither Chris nor Kelly used checklists on a regular basis. Alex, who had spent a number of years marking Education Quality and Accountability Office (EQAO) assessments, made a point of indicating that she did not evaluate writing by deducting marks for errors. Similarly, Joey did not like to emphasize use of conventions in her use of assessment and evaluation tools. In fact, she did not like to use tools that were structured; she preferred more open-ended tools. Terry and Sam were fairly liberal in their use of tools and did not specifically identify any that they did not use. Finally, Sandy expressed unfamiliarity with use of portfolios and added that she did not use as much peer- or self-evaluation as she "probably should."

More illuminating still were the participants' responses to how they carried out their assessment and evaluation on a regular basis. With respect to implementation of formative assessment and summative evaluation, Joey was the sole participant to assert that she had fully integrated those components of assessment and evaluation into her practice. Terry, Sam, Chris, and Sandy were on their way toward full implementation but at times were still clinging to more traditional evaluative practices. Of all the participants, Alex and Kelly were struggling to implement practices that allowed for formative assessment. Kelly said she "wasn't there yet," and Alex categorized her practices as "the assess-after category" because she could not seem to break the cycle of evaluating

student writing after it was completed instead of assessing and providing feedback while the students were in the process of writing.

With respect to providing students with feedback in order for them to improve their writing, again responses from the participants varied. Unsurprisingly, Alex and Kelly were not entirely successful in being able to provide timely feedback to their students. Alex stated that she did not "find it easy to do" in reference to providing feedback or conferencing with her students. Kelly tried to give feedback but was not sure that the feedback was used effectively by her students. Chris also struggled with the timeliness of his feedback, maintaining, "I find myself losing track of time . . . where something I think is going to take me 2 weeks, and the piece of assessment I've put in along the way for feedback, a month later I'm looking back and saying, holy, what the heck happened?" At the same time, he also found that students were not always receptive to taking feedback and making changes to their work. Although their feedback did not appear to be delivered in a formal format, Terry and Joey made references to planning and teaching based on their observations of student achievement and on their willingness to reteach and to provide students with opportunities to rewrite as necessary. Sam and Sandy appeared the most comfortable with providing students with timely and specific feedback on which students could reflect and improve their writing.

I then asked the participants about the congruency of their assessment and evaluation practices with their colleagues' practices. Responses to this query were desultory and confusing. Alex thought that all teachers were working toward the same end, at least with respect to independent completion of summative tasks. Terry and Sandy were not really aware of what other teachers were doing with respect to their assessment

and evaluation practices and so could not speak to congruency. Sandy added that when she did collaborate with colleagues, the collaboration dealt more with planning and less with assessment and evaluation, but she thought that their practices would be alike. Kelly, whose teaching partner was Chris, stated that their practices were not the same, while Chris declared that he thought their practices were similar. Then there was Sam, who because she was the French teacher, made a point of ensuring that her assessment and evaluation practices were closely aligned with those of her grade team partners in order to ensure her own survival.

Current collaboration practices of the 7 participants appeared to be connected to the congruency of their practices. While Joey and Sam had the most opportunities to collaborate, those opportunities for Sam did not seem to lend themselves well to effective collaboration practices. Sam disclosed that most of her collaborative opportunities, which were scheduled three times a week, consisted of informal discussions, mostly related to resolution of classroom issues; she did not feel that the time was maximized. The other 5 participants did not consider that the time that they had for collaboration was adequate. Alex, Kelly, Terry, Sam, and Sandy found that very little, if any, of that time was used for planning purposes. Additionally, Alex and Terry did not have grade team partners with whom they could collaborate.

Progressive findings. The participants used a variety of assessment and evaluation tools over the 6-month study. Three of the participants tended to use the same tools every month with little to no change, while 4 participants made a point of identifying assessment and evaluation tools that they had added to their repertoires. Of those 4 participants, 3 of them, Alex, Sandy, and Chris, directly attributed their changes to

discussions that had occurred during the teaching circle meetings. The fourth participant, Kelly, while not crediting her changes to the group discussions, did stress that she had a made a conscious effort to add more assessment and evaluation techniques to her practice. Alex and Kelly added conferencing to their practices and found it to be a useful addition. Kelly thought that students paid more attention to that feedback than they did to comments written on their work. Alex and Sandy added self-assessment early in the year. Sandy had never used self-assessment before; in fact, she had thought it was "hokey," but with her desire to improve her assessment and evaluation practices, she implemented it with great success and continued to develop its use throughout the year. The final additional tool that was added to Kelly's and Chris's practices was peer-evaluation, which they both initiated in April.

During the teaching circle meetings, while the focus of discussion was on the development of a common rubric, there was some discussion that revolved around the assessment and evaluation practices of the participants. Participants' struggles with their practices emerged at the first meeting when the group had not decided upon a group goal. It became clear that Joey, Sandy, Sam, Alex, and Chris were struggling with the use of rubrics in their practices. Joey, Sam, Sandy, and Alex were in the habit of taking rubrics used for other grades or tasks and having to adapt them to suit their needs and purposes, while Chris tended to use the same rubric for a variety of tasks.

It was after the second month of meetings when first Sam and then Sandy took the earliest prototype of the group rubric and adapted it to their own uses. Throughout the remainder of the teaching circle meetings, Sam and Sandy, more so than any other participants, were keen to modify and use the rubric and to share their results during

group discussions. As teaching circle discussions became more focused on the development of the rubric, there was less opportunity for participants to share their assessment and evaluation practices with the rest of the group.

As part of their written monthly reflections, I asked the participants to qualify how much their assessment and evaluation changes were affected by their participation in the teaching circle meetings. Overall, Alex, Terry, and Kelly identified that they had made small to moderate changes in their practices. Despite adding assessment and evaluation tools, Alex and Kelly did not seem to feel that they had made any significant changes to their practices. Terry struggled with finding time to make noteworthy changes to her practice. Sam believed that she had made moderate changes, Joey and Chris thought they had made moderate to extensive changes, while Sandy firmly held that she had made extensive changes to her assessment and evaluation practices. Sam was the first participant to take the framework of the rubric we started to develop and to adapt it to her own use; other than this, she did not appear to make any other changes to her practice. While Joey did not actually make many changes to her practice with respect to the strategies she used, she did retool the strategies she used so that they took into account grade and task expectations. Chris commented that he had reassessed his current practices and had made changes to make his assessment and evaluation more valid and accurate. From the start of our first meeting, Sandy had begun initiating change in her assessment and evaluation practices by adding strategies and reflecting upon the effectiveness of her current strategies, and she continued to do so throughout the process.

In February, participants talked about the issue of time and the impact it had on their practices. Chris and Alex commented on the time it takes to mark student writing,

that there is not enough time to make in-depth comments. They had difficulty in implementing conferencing with their students as a possible solution because they had to deal with interruptions from the other students in the class. Sam and Joey stated that they did provide students with feedback in the form of comments or suggestions on their work and expected them to make improvements before resubmitting their work for final evaluation. Kelly followed the same procedure but found that students did not always read and act upon the suggestions; instead, they would simply rewrite the work more neatly.

Final findings. When asked about changes that they had made to their assessment and evaluation practices, 4 participants indicated that they had made changes, 1 did not, and 2 were noncommittal in their responses. Terry professed that she had made changes to her assessment and evaluation practices but had difficulty in distinguishing exactly what she had changed. She revealed, "I'd say from just talking to people, I've sort of changed some of the ways I evaluate kids . . . but I couldn't tell you what." The clearest impression of change came from Sandy, who discerned that she had fully integrated peer- and self-assessment into her routine and had plans to build upon those practices in the future. She credited these changes not only to discussion that took place during teaching circle meetings but also to the continuation of those discussions that happened back at school with Chris. Furthermore, Kelly, Chris, and Sandy talked about how they had changed their approaches to developing rubrics. While Chris and Kelly referred to prior practice when they had developed rubrics without critically examining either the process they followed or the content they included, Sandy made note of how comfortable she had become with the process that we had followed. She indicated that in the future, "it's just

going to get easier as I create more and more, because even as I create it, I created three of them, they became easier each time, because I knew the layout and how it should look." At the opposite end of the spectrum, Alex confided that no, she had not made any changes to her practice; disappointed that she had not changed her practice as she would have liked, she explained, "I found myself caught up in the whirlwind of the year." Neither Sam nor Joey made any specific references to changes in their assessment and evaluation practices.

As I spoke with the participants about change to their assessment and evaluation practices, it became clear that there were obstacles that had prevented some of the participants from making changes, or at least that had limited their ability to make desired changes. Alex, Sandy, and Terry struggled with the issue of time. Terry in particular confessed to having difficulty accommodating changes in assessment and evaluation, professing, "I thought there were a lot of good ideas, but just because I didn't have time to put it into practice a lot, I couldn't figure out how to make it more efficient." Sandy added, "I still have questions about how I'd like to do [assessment] better and more efficiently because that's the part that can take you time." Kelly and Terry grappled with trying to co-ordinate formative assessment and summative evaluation as part of their assessment and evaluation routine. Kelly divulged, "I find it a bit of a struggle that this needs to be a rich task, that they have to do it in front of me," while Terry conceded, "I'm still caught in the old sort of ways of evaluating." Alex brought up another potential obstacle, one that might have a more far-reaching impact. It was her observation that "the thing that's sort of lacking is the commitment as a school to these things because we've done it on our own time; it's been completely voluntary and not been something that the

school has promoted." It was her worry that without the involvement of other teachers in the school or the support of administration, any possibility of change could fall by the wayside.

It was difficult to determine whether or not any of the participants had made changes to their collaboration practices; however, 3 of the participants were able to address changes that they had initiated in other collaborative opportunities that took place concurrently with this collaborative experience. In comparing this experience with others, the participants drew upon components of the teaching circle process and applied those components to other situations. Several of the participants were also involved in the school's social skills committee, and Chris affirmed, "I think probably the later part in the social skills committee we started to steal some of the process." Evidence of the potential influence of this collaborative experience was demonstrated in the conversations that were started in our regular meetings but were continued back in the school. Chris and Sandy were instrumental in bringing our work to the attention of the school administrator, thus extending the life of this collaborative experience, albeit in a different configuration, into the next school year. Sandy clarified that "because we were talking about student achievement and a lot of us that were in this group would start talking about what we were doing. So it did connect with other things that were going on."

Summary

The analysis of the data demonstrates the impact that collaborative learning had on the participants' knowledge, attitude, skill, aspiration, and behaviour. The most salient effect occurred when the participants noted change in one or more of the above five indicators of change. While there was evidence of impact in some indicators of change, it

was more difficult to determine what impact, if any, the participants experienced in other indicators of change. What was notable, however, were the perceptions of the participants regarding the value of collaboration. Without exception, the participants whole-heartedly endorsed collaboration as a means of learning.

CHAPTER FIVE: SUMMARY, DISCUSSION, AND IMPLICATIONS

As we move further into the 21st century, continued technological advances and a shrinking global gap mean that education needs to find a way to keep current with these changes to ensure that students are fully prepared for a workplace that is constantly changing. There is legitimate concern that education is not meeting the needs of many of its students. Rapid-fire changes in the world around us mean that teachers have to be able to adapt quickly to meet the ever-changing and increasingly demanding needs of students. In a profession that has not changed substantially in a hundred years, education is not winning the battle. While the many benefits of collaboration as a means of professional learning have been espoused for many years, collaboration has yet to be given a legitimate place in education, by teachers or by policymakers. Time is a valuable commodity in education, and to this point collaboration has not been recognized as deserving of that time. The current direction of educational reform is hopeful that collaborative teams engaged in job-embedded learning will provide the necessary resolution to today's educational shortcomings.

The purpose of this study was to examine the impact of teacher collaboration to determine whether or not collaborative learning teams could make a difference in teachers' learning and teaching. Through involvement in a professional learning community, the participants would have an opportunity to examine and to develop their knowledge, attitudes, skills, aspirations, and behaviours in assessment literacy as it pertained to assessment and evaluation of writing. The participants, as learners in this environment, would substantiate the value or lack of value of the collaborative process.

Summary of the Study

Collaboration among teachers typically tends to be an informal sharing of ideas and problem solving; teachers' daily schedules are too hectic for anything more formal. Traditional forms of professional development have relied heavily on workshops, where teachers acquire new knowledge from an "expert." Neither situation is an entirely satisfactory or effective means of improving teaching and learning. By gathering together a cadre of grades 4-8 teachers, it was my hope that a focus on the development of a community of learners would enhance their professional growth and showcase the effectiveness of collaboration as a means of professional learning. As assessment and evaluation have become increasingly important, examining teachers' assessment and evaluation of writing practices dovetailed with the impact collaborative learning might have on those practices. I selected a qualitative case study research design to further explore the possibilities of collaborative learning. Purposeful sampling was used to select participants to form a collaborative group for the purpose of focusing on issues involving teaching and learning, specifically assessment and evaluation. The 7 teachers who chose to participate were a homogenous sample in that they were junior-intermediate teachers who taught language in the same school.

Multiple sources of data collection were selected in order to provide rich and detailed data from several viewpoints, mine as well as the participants'. Data were collected through a variety of methods, including: two interviews, 11 sets of bimonthly meeting notes for a period of 6 months, researcher observations, and participant reflections. Interviews were conducted at the beginning and the end of the study in order to track change in participants' perceptions about assessment, evaluation, and

collaboration. Those interviews were audiotaped and transcribed. Eleven meetings were audiotaped and loosely transcribed; the content of data from the meetings revealed participants' thoughts and actions with respect to assessment and evaluation. At the conclusion of each meeting, I recorded my own observations and reflections as researcher-participant. The final piece of data collected from each of the participants was a monthly reflection log used to track learning and changes in perceptions and behaviour. The data were examined recursively in order to understand clearly all components of the case study.

This ethnographic case study focused on exploring development and potential change in knowledge, attitude, skill, aspiration, and behaviour (KASAB) of the participants regarding their assessment and evaluation practices of writing and on participants' perceptions of the effectiveness of collaboration as a means of learning. Analysis of the data included looking for shared patterns based on the themes of KASAB, which allowed me to determine the impact collaboration had on these indicators of change experienced by each of the participants. The impact was noticeable in some of the indicators in that teachers recognized that they had made changes; the impact was not as noticeable in some of the other indicators. This is not to say that there was not an impact in those areas, but rather that the effect was not easily measurable. It is possible that other factors may have inhibited the anticipated change. A portrait of the collaborative culture of the participants developed as I analyzed and interpreted the data, leading me to the conclusion that collaboration was valued by the participants and could be beneficial to educational reform, although more research is needed in this area. In order to maximize the accuracy of the findings, triangulation of multiple data sources was used, and member

checking was employed throughout the data collection process. There were a number of limitations associated with the data collection as well as my own limitations as a researcher.

Analysis of the data studied revealed that a slight to moderate degree of change occurred in teachers' knowledge, attitude, skill, aspiration, and behaviour (KASAB), while teachers' perceptions of the impact that collaboration had on their learning were positive. With respect to the assessment and evaluation practices of the participants, while there were some changes in informational learning (knowledge) and procedural learning (skill) of the participants, it was more difficult to identify the impact of collaborative learning in either transformational learning (attitude and aspiration) or in behaviour. The difficulty in pinpointing learning or change in teachers' behaviours may be as simple as the participants not perceiving or not being able to articulate their own change; it may also be explained by one or a combination of factors that are known to affect learning (Killion, 2008a): willingness or need to learn, sense of self-efficacy, time, resources, expectations, and the culture of learning.

The collaborative format of the learning process was perceived by the participants to be beneficial to their learning and growth. The participants were appreciative of the opportunity to engage in professional dialogue, a normally rare happenstance in their busy days. To them, the benefits of professional learning through collaboration far outweighed any concerns they identified. While the collaborative process may not have had an immediate impact on changing the participants' assessment and evaluation practices, future possibilities for development and change were envisioned by some of the participants. The power of the learning community was evidenced when the

participants made plans to continue with collaborative assessment planning as a whole-school initiative in the upcoming school year.

Discussion

The purpose of this study was twofold. The study was designed primarily to determine if any development or change occurred in teachers' knowledge, attitude, skill, aspiration, and behaviour in assessment and evaluation as a result of collaborative professional learning. The evidence suggests that the participants experienced the most change in informational or demonstrative learning (knowledge) and organizational or procedural learning (skill). By the end of the study, the participants appeared to have gained a deeper understanding of the language curriculum, which they were able to apply to their assessment and evaluation skills. They credited increased knowledge of the curriculum with enabling them to improve their skills in developing better rubrics than they had in the past. Collaborative learning appeared to have a less noticeable effect in participants' transformational learning in the areas of attitude and aspiration as well as in their behaviour. In order to understand why the impact in these areas was not as distinct as it was in knowledge and skill, I considered the possibility of other factors that might have prevented the participants from making significant change.

The second purpose of the study was to determine teachers' perceptions of the effectiveness of a professional learning community as a means of growth. The participants spoke enthusiastically about collaboration, and they professed the desire to continue working collaboratively with peers. Perhaps the most significant outcome of this study was the plan for continued collaboration and development of common assessment

and evaluation practices that were put in place by a few of the participants in conjunction with the principal.

Informational or Demonstrative Learning

In the domain of participants' knowledge about assessment and evaluation, there are three conclusions that can be drawn from the data. Two of those findings indicate that the participants made notable changes to their knowledge, while one finding indicates minimal change in knowledge. The first conclusion drawn is that the participants developed a shared understanding and thus gained a deeper knowledge of the language curriculum and the developmental progression of writing. The second conclusion shows that participants acquired a better understanding of the link between assessment and curriculum. The final conclusion indicates that there was limited change in knowledge about specific assessment and evaluation tools.

An important development of this collaborative study was the shared knowledge (Wenger et al., 2002) that resulted in response to discussions about assessment and evaluation. Over the course of this study, it was evident that the participants were working towards developing a common understanding of assessment and evaluation concepts and practices. Throughout many of the meetings, the participants engaged in lengthy discussions and shared ideas about the language curriculum, developmental progression of writing, and school board expectations with respect to writing genres. Having the opportunity to engage in more theoretical discussions helped the participants to improve their understanding of the principles behind their assessment and evaluation practices. As some of the participants pointed out, they were not used to talking about issues that did not require an immediate response, and they enjoyed this opportunity to

engage in discussions that were more abstract. It was this shared understanding of these concepts that enabled the participants to develop their skills in creating rubrics, which will be discussed in the next section.

With the Ontario curriculum seeming to be in a constant state of flux over the past 10 years, up to and including the revised version that was in progress during this study, it was not surprising that the participants' knowledge of the language curriculum at the beginning of the study was vague and questionable. By the end of the study, however, the participants professed a deeper understanding of curriculum expectations, not only those of their own grade level but also expectations spanning the grade levels from 4 to 8. It has been my experience that teachers tend to work within the confines of the grade level(s) they teach. Teachers may be knowledgeable about the curriculum expectations and developmental stages of their own students, but they do not have the same degree of knowledge of other grades. Faced with heavy workloads and little time, teachers are not able and, in some cases, perhaps not willing to engage in any learning that does not have a practical application in their own classrooms. During this study, a great deal of time was spent discussing the developmental progression in writing, the language curriculum expectations, and board-initiated documents, which enabled the participants to compare notes regarding the writing abilities of students in different grades. One of the primary concerns of the participants had been to develop more clarity on what needed to be taught at each grade level and then what they should be teaching in order to build upon the previous year's skills. In a departure from the usual professional learning opportunities, which tend to be more oriented to practical application, teachers involved in this collaborative venture spent a great deal of time discussing the curriculum document. This

prolonged conceptual discussion was possible because of the ongoing nature of the professional learning community. Participants were not restricted either by time or by a mandated agenda. Through these discussions, they were able to expand their existing knowledge about curriculum expectations, achievement chart categories, and developmental progression and to develop an awareness of a variety of grade expectations. Because it was relevant to their goal, the teachers took the time to investigate expectations for grades 4-8 levels. This allowed the participants to gain a more global understanding of needs and expectations within the school, and this broader awareness in turn could go a long way to cultivating a more collaborative environment within the school.

A second notable change in the knowledge of the participants was their understanding of the connection between assessment and curriculum. As one participant noted, "the rubric just forces you to look at the curriculum and make sure that it's purposeful, that it's not just a great idea, but that it's linked carefully to the curriculum." Initially, participants had been frustrated by what they perceived to be a lack of direction concerning the language curriculum. By working through the collaborative process to develop the rubric, they came to the realization that in selecting appropriate criteria and in examining the expectations of the curriculum it was not possible to separate the two concepts. This finding is consistent with that of Parr et al. (2007). What differentiates the finding in my study from that of Parr et al. is that they found their participants developed an understanding that assessment was linked to curriculum as well as teaching and learning, whereas that same finding was not as clearly evident in my data. However, that is not to say that my participants did not have that understanding. Because the

participants had previously made the connection between assessment and teaching, I believe it is likely they understood the broader connection.

The final finding related to knowledge acquisition of the participants concerns the limited knowledge gained by the participants in this study with respect to specific assessment and evaluation tools. I was somewhat surprised with these results until I revisited the study undertaken by Englert and Tarrant (1995), who discerned that when theoretical and practical knowledge are intertwined there is more likelihood of deep-seated change. Development of practical knowledge of assessment and evaluation tools, such as portfolios, rubrics, and editing and revising, is what teachers often seek in professional learning opportunities. They want their learning to be directly applicable to their own practice and have little time or patience for knowledge that they perceive to be abstract. However, engaging teachers in an opportunity to gain a deeper understanding of the underlying principles as well as of their own practice through ongoing discussions builds the foundation for change (Englert & Tarrant). In this study, we looked at specific assessment and evaluation tools, namely rubrics, portfolios, and editing and revising. While rubrics were an integral focus of discussion, portfolios and editing and revising were stand-alone topics for discussion. Because individuals in the group had shown an interest in learning more about portfolios and editing and revising, time was allocated during four meetings to discuss and share ideas regarding these two assessment and evaluation tools. These discussions focused on the practical aspects of the assessment and evaluation tools, for the most part, how they could be implemented in the classroom. The conversations never included the theoretical issues or underlying principles about either portfolios or editing and revising. In the end, most of the participants did not note any

change in their knowledge with respect to these assessment and evaluation tools. Despite the ongoing focus on rubrics, participants did not note any significant change in their knowledge about rubrics either. While it would appear that the participants did gain more knowledge about rubrics, as is evidenced by their skill development, it would not appear that they enhanced to any significant extent their existing knowledge of any of the assessment and evaluation tools that were brought up for discussion. In hindsight, by not considering theoretical issues surrounding the use of rubrics, I believe this may have contributed to the group's difficulty in achieving their goal, which was the completion of the rubric. Having a more solid foundation in the development of rubrics might have helped them through the rubric-building process.

While there were gains in knowledge in assessment and evaluation, in the grand scheme, the participants barely scratched beyond the surface of what teachers need to know in order to become assessment literate. In all fairness to the participants, it must be remembered that the majority of discussion about assessment and evaluation focused on writing. In order to plan effectively for instruction, teachers need to become even more familiar with the curriculum expectations and their meanings. The timing of this study and the release of the revised language curriculum was inopportune, to say the least. If the revised curriculum had been available at the start of the study, much of the time that was spent on speculation would have been eliminated. It speaks to the integrity of these participants that as knowledge of the revised curriculum was released at various stages they were willing to assimilate that knowledge, even as it meant that they would not fully achieve their goal. The development of shared understanding could have been much more

far-reaching if the participants had been able to work through the revised curriculum from the outset.

Organizational or Procedural Learning

Skill development was visible in one area and notably not in any another areas of participants' practice. While the participants noted that collaboration had a positive impact on their assessment and evaluation skills, they could pinpoint change only in rubric development; any other changes could not be specifically identified.

Development of rubrics was the skill in which all the participants appeared to have experienced a significant degree of change. When it came to the development of rubrics, the participants progressed from using a more haphazard approach of criteria selection to one that was based on their knowledge of curriculum expectations and developmental stages of writing. The participants applied their newfound knowledge to develop an assessment tool that had a more credible foundation than previous endeavours. Not only did the participants carefully consider curriculum expectations and developmental stages of writing, they also used this information to connect the rubrics across the grades so that students could build upon their skills and develop their proficiency in writing. What makes this skill development relevant and important is that it reveals the participants' abilities to link assessment with learning. They were better able to use assessment as a means of improving student learning by determining what needed to be learned at the outset and then working towards helping students achieve that learning instead of looking at assessment after the fact, which had been their prior practice.

The changes that the participants made to the manner in which they developed rubrics also demonstrates the value of collaboration, which aligns with the discovery by Khourey-Bowers et al. (2005) that collaboration results in gains in skill development. As was evidenced by their knowledge, the participants were well versed in the difference between assessment and evaluation and knew that they were expected to implement formative assessment with summative evaluation; however, many of them struggled in trying to get there. As Terry pointed out, she was still caught in the old ways of assessing. It is interesting to note that these teachers had all attended an after-school workshop on assessment and evaluation prior to the start of this study. This workshop gave them the knowledge but not the skills or opportunity to practice that they needed to implement the changes. Having the opportunity to engage in ongoing collaborative learning, where the participants were able to share ideas with each other, implement these ideas, and then get feedback from one another is what helped them to begin to develop those skills. The benefit of this process is evidenced in particular by how they looked at professional judgement. Initially, when participants talked about professional judgement, it was framed in vague terms. The participants made reference to using professional judgement but did not clarify the foundation of their professional judgement. By the end of the study, it was clear that the professional judgement of the participants was steeped in the knowledge that they had shared as a group. As a result of their willingness to share their expertise, having the opportunity to talk and to share enabled them to develop a common vision about rubric development (Grossman et al., 2001).

Skill development in other areas was less pronounced and more individualized. As we had spent some time discussing other assessment and evaluation tools, it appeared

that a few participants perceived that they had developed their skills in these areas, but the growth noted here was limited to those individual participants. Often a topic for discussion during initial interviews and first meetings was how to implement assessment and evaluation strategies effectively, but again, little change was noted here. The participants were aware of the importance of changing how they implemented assessment and evaluation; they had the knowledge, but they did not have the skills. In all fairness, while this topic was brought up in conversation, it was not the focus or the goal of the group, and therefore, once work intensified on the rubric, this topic of conversation faded away. However, it is important, maybe more for the missed opportunity that it represents. When this study was first undertaken, the concept of using formative assessment and summative evaluation was relatively new to most of the participants. The participants had attended a workshop in which they learned about the current direction and expectations for implementation of assessment and evaluation. What they had not received, however, was the opportunity to develop their skills in this area. For most of them, they were aware of what they needed to be doing with respect to assessment and evaluation but just did not know how to do it effectively. They struggled with implementation of feedback for assessment purposes and with time and management. My assumption is that had we spent more time on this issue or had established it as the group goal, we might have seen skill development in this area.

Transformational Learning

At first glance it would appear to be disappointing to realize that there were no obvious changes in transformational learning. Killion (2009) reminds us that while developing knowledge and skills form the basis for learning, for there to be long-lasting

learning that impacts student achievement, teachers have to challenge their beliefs, examine their motivations, and change their practices; transformational learning is nothing if not profound. However, when a closer look is taken at attitude and aspiration as they pertain to this study, one has to ask if change in these elements was a realistic expectation or was even necessary. It is possible that with respect to their beliefs and aspirations, the participants had experienced something similar to a ceiling effect. It is possible in the case of this group of participants that their openness to current beliefs and willingness to change practice had reached a plateau and that they were limited in the change they could have achieved.

The attitudes or beliefs of the participants changed very little over the 6-month study. As most of the participants noted, it was not so much that their attitudes or beliefs changed, but that they were reaffirmed or deepened by their involvement in this study (Perry, Walton, & Calder, 1999). In this case, while the reinforcement of existing beliefs is not as blatant as change, it is no less important. In retrospect, the fact that the participants' beliefs were reaffirmed should not be surprising when we take a look at the initial attitudes of the participants, which were already open and in line with current reform. There were three common areas of attitude that were presented by the participants throughout the study: beliefs about participants' own practices, beliefs about the importance of consistency of assessment and evaluation practices across the grades, and beliefs about professional learning. With respect to thoughts on their own assessment and evaluation practices, at the beginning of the study, the participants had varying beliefs in their ability to use them effectively. At the same time, they were all willing to investigate and even adopt different ideas if these would make their practices more

effective. The participants' understanding that changes in assessment and evaluation were ongoing and that they needed to be constantly reevaluating their own practices in order to remain is supported by what Perry et al. (1999) noted in their study. From the outset, despite their awareness of what comprised current and effective assessment and evaluation practices, there were a number of participants who were not sure how to implement those practices. What all the participants perceived to be important was being able to use assessment for instructional purposes and to provide students with feedback in order for them to be able to improve their work. This belief mirrors the work of Black, Harrison, Lee, Marshall, and Wiliam (2004). The participants understood the value of this aspect of assessment and evaluation even if they were not able to implement them as they would have preferred; this belief remained consistent throughout the study.

There was very little change in what participants believed about the importance of consistency in assessment and evaluation practices of colleagues. From the beginning of the study, they believed it was important for teachers to be able to make their own decisions about assessment and evaluation but that it was also important that they all be "on the same page"; in other words, that they have similar expectations. This belief too conforms to current thinking as is outlined in the document: *Literacy for Learning: The Report of the Expert Panel Report on Literacy in Grades 4 to 6 in Ontario, 2004*. While this belief did not change, the participants expanded it slightly to include the importance of skill development across the grades. By heading in this direction, the participants realized the value that this could have for them within their own classrooms; not only would they have a clearer direction about what skills they would need to address, but

with their enhanced knowledge of different grade expectations, they would also be better prepared to handle the diverse range of student abilities in their own classrooms.

Attitudes about professional learning achieved through workshops and collaboration were addressed and remained consistent throughout the duration of the study. Participants found value in both methods, although they believed that the value of workshops was limited to distribution of knowledge and not very effective in enabling change. Their attitudes regarding collaboration were more favourable, with the most positive outcome being the greater likelihood of change to one's practice because of the support available from collaborating with colleagues. The participants found that the benefits of collaboration far outweighed the potential obstacles. This being said, this group of participants was very cohesive and like-minded; they did not encounter any conflicts that might have adversely affected the progress of the learning community. While the participants may not have made significant changes to their practice based on collaboration, they believed that sharing ideas and learning from one another was the most valuable way to develop their professional learning. When the attitudes of the participants are carefully examined, it would appear that because those beliefs were already commensurate with current reform, there was, very possibly, little room for change.

Similar to attitude, the aspirations of the participants changed very little from the beginning of the study to the end. With respect to assessment and evaluation, the participants began by indicating that they would be willing to make changes to their practice if they found that the changes improved their existing practice. By the end of the study, the participants reworded "willingness to change" to "intent to change" regarding

their assessment and evaluation practices. Those participants who had not made significant changes to their practice indicated that they planned to make changes in the future. In all fairness to the participants, there were obstacles that prevented some of them from moving beyond desire and intent; those obstacles will be discussed later in this chapter. The participants' motivation to engage in collaboration also remained unabated by the end of the study. In particular, there were three consistent reasons that the participants gave as motivation to collaborate. They looked forward to the opportunity to engage in discussion with their peers and to be able share differing points of view. They expected to learn from the ideas that would be shared and from the discussion that would ensue and that ultimately they could use to improve their own practice. Finally, they expected to get personal satisfaction from collaborating, such as spending time with colleagues and meeting their own goals.

In their study, Khourey-Bowers et al. (2005) also found that there was not as much change in attitude and aspiration as there was in knowledge and skills. Their study determined that lead teachers were more likely to change aspiration when they experienced deeper and prolonged professional learning experiences. Perhaps if we had spent more time in this study and had delved deeper into assessment and evaluation, there might have been change in attitude and aspiration. I would argue, however, that the attitudes and aspirations of this group would have changed very little, regardless of the amount or depth of time spent as a learning community because they were already receptive to change and willing to make changes.

Behavioural Change

Behaviour was the final and least obviously impacted component of KASAB. Of the 7 participants, 2 participants demonstrated that they had indeed changed the manner in which they developed rubrics, and 1 additional participant declared that she had changed her practice as well. Similarly, Khourey-Bowers et al. (2005) found that the lead teachers in their study were more likely to change their practice than were the teacher participants. The parallel that I would draw here is that the 2 participants who made changes to their practice were the 2 participants who took the sample rubric, adapted it to their use, and tried it in the classroom over the course of the learning community process. I believe that having the opportunity to use and revise their work and then bring back what they had done for discussion with the rest of the group gave them the practice and the confidence that they needed in order to incorporate it into their existing practice. A third participant attested to the fact that she had also changed her practice, but I did not have the opportunity to witness these changes. The remaining participants were at varying stages in making changes to their practice but were facing a variety of different obstacles that were making it difficult for them to actually change their existing practice.

What is most puzzling about the lack of change in behaviour is its relationship to attitude and aspiration. The participants held current beliefs about assessment and evaluation and were willing to make changes to their practice, and yet most of them did not make notable changes. Fullan (2007) provides a possible explanation for this when he reasons that the "current strategies and conditions are not powerful enough to take us to the next stage" (p. 2). Fullan also notes that behaviours will change before beliefs; as teachers have successful experiences, they will change their beliefs.

Even though they may not have made significant and visible changes to their practices, the participants did demonstrate a greater awareness of assessment literacy; they understood the importance of shifting their stance from assessment of learning to assessment for learning, and they demonstrated an improvement in conceptual understanding and in the alignment of assessment with instruction. They were just not ready to put those changes into their practice. There were also a number of other factors that might have had a detrimental effect on the participants' abilities to make changes.

Factors That Affect Learning

It was surprising to me that a community of learners established to measure change in KASAB did not register significant changes. When I consider the time and effort invested by the participants, I would have thought that change would be more clearly visible. In order to determine why there was so little change in participants' transformational learning, in particular in their behaviour, I returned to the literature for further direction. Killion (2008a) identified a number of factors that may affect learning. Among those factors are a willingness to learn, sense of efficacy, time, resources, expectations, and the culture of learning. Nielsen et al. (2008) explain that the factors that affect change can be categorized as those within the control of the individual and factors that are dependent on external influences. In the following section of this chapter, I will address how those factors may have contributed to the minimal change evidenced in this study.

Willingness or need to learn. Engagement of teachers in any professional learning situation is within the control of the learners themselves and is an important indicator of whether or not change will occur. Teachers are more likely to effect change in their

practice when they see the value in learning or are able to direct their own learning. The likelihood of change diminishes when teachers do not have control over their learning or if they do not see the value of the learning (Killion, 2008a).

Involvement in this study was strictly voluntary. Participants were invited to engage in a collaborative learning opportunity without fear of repercussions if they chose not to become involved. While the school administrator was aware of the study, he did not exert any influence or pressure on the participants in any way. Participants decided to become involved in the study for a variety of reasons, whether it was to have the opportunity to engage in professional dialogue, to participate in professional learning, or perhaps even to reciprocate a kindness because of previous professional and social relationships that I had with the participants. It is quite likely that some of the participants volunteered to participate because of our existing relationship, not because they had a burning desire to change their practices. Whatever the initial motivation, all of the participants demonstrated an abundant willingness to learn. Aside from the general topic of assessment and evaluation practices, it was the participants who selected the focus for learning; it was not directed by me nor by any other sources. Without exception, these participants indicated their own willingness to learn as a means of developing their own practices. Based on the data presented in the previous chapter, I would be inclined to say that willingness to learn was not a significant factor that prevented any of the participants from actualizing change in their practice.

Sense of efficacy. A teacher's sense of efficacy is the confidence that he or she has in his or her ability to teach. The greater the sense of efficacy or confidence a teacher has, the more willing he or she may be to reflect upon and make changes to his or her practice

(Killion, 2008a). Recent changes that have taken place in education with respect to assessment and evaluation, without accompanying training and support for teachers, have contributed to a decrease in teachers' sense of efficacy (Fullan, 2007). In order to develop a strong sense of efficacy, teachers need to feel confident about new strategies or tools that they intend to add to their practices (Nielsen et al., 2008). It stands to reason then that teachers who are struggling with issues of change and reform need support in order to develop their sense of efficacy. Without a strong sense of efficacy, they will struggle to make changes to their practice. Khourey-Bowers et al. (2005) noted in their study that lead teachers had a better sense of efficacy than the teacher participants because they had greater exposure to professional learning. As a result, with the confidence that they had developed in their skills, the lead teachers were more inclined to change beliefs and make changes to their practice.

Throughout the duration of this study, various degrees of efficacy among the participants were noted. With respect to assessment and evaluation practices in particular, participants vocalized their senses of efficacy; while there was a certain degree of confidence in their knowledge, skills, and practices at the beginning of the study, there was also some doubt and feelings that there was room for improvement. Even by the end of the study, many of the participants indicated continued doubts about their efficacy in assessment and evaluation practices. One way in which teachers can increase their sense of efficacy is by becoming proficient in an instructional experience (Nielsen et al., 2008). The focused learning in this study was the development of a specific assessment tool. Two of the participants took the opportunity to try out the tool, a rubric for assessing writing, in their own classrooms and then to discuss the results with the other

participants. Experiencing success in their classrooms as well as learning from the feedback of their colleagues enabled those 2 participants to increase their feelings of competence in implementing the assessment tool. At the end of the study, those participants who had not implemented the rubric in their classrooms indicated a lower sense of efficacy in terms of using the rubric compared to the other 2 participants. It did not help matters that the participants were learning about and trying to incorporate the revised curriculum into the rubric, which was essentially a work in progress even at the end of the study. This situation did not allow the participants the opportunity to become proficient in its use. Additionally, many of the participants had not yet come to terms with how to ensure their assessment and evaluation practices were efficient and effective, which had been a concern for them from the outset. It would appear that teachers' senses of efficacy did play a role in the lack of change in their assessment and evaluation practices.

Time. Daily opportunities for collaboration are essential if change in teaching practice is to occur (Nielsen et al., 2008). Lack of time to collaborate is an issue that teachers face on a daily basis. Participants of this study were willing and eager to learn and to collaborate, and they would like to have had more opportunity to collaborate, but lack of time was an issue on several fronts. Participants indicated that finding time to collaborate was a problem, and then finding the time to implement what they learned through collaboration was another problem. A third issue regarding time, which I believe contributed to the lack of change in practice, was the relatively short duration of the collaborative learning process.

Finding the time to collaborate was not much of a problem in this case since the participants willingly met on their own time for 1 hour every 2 weeks for a period of 5 months. The fact that there was no job-embedded time for collaboration was a concern for most of the participants; however, as this obstacle is affiliated more with the culture of learning, it will be addressed in greater detail further on in this chapter. Finding the time to implement learning was an obstacle that was identified by several of the participants to explain why they were not able to make changes to their practice. While the participants met on their own time to discuss and plan for assessment and evaluation, they struggled with transferring what we had discussed and decided upon as a group and with applying it to their own practice. Those participants who did not implement the rubric during the study timeframe mentioned that they did not have time to try it out because they had too many other responsibilities. The rubric itself was not completed as a final product, so there really was not the time for the participants to use the rubric in their own practices. Time was identified by most of the participants as the main reason for lack of change in their practices. In most cases they indicated that they were trying to balance what they had learned with their existing practices and just were not able to find the time or a way to integrate the two.

The ongoing nature of professional learning is crucial to teachers' ability to initiate change. Research has shown that one-time workshops are not sufficient in duration to enable teachers to effect change. While there was a certain degree of change in the participants' knowledge base, the relatively short time frame of this study may have prevented further knowledge acquisition. In their 5-year study, Khourey-Bowers et al. (2005) found significant change in content and pedagogical knowledge occurred over

the course of the first 2 years. This study took place over a 6-month period; meeting twice a month for 6 months did not really provide the participants with a significant amount of time to learn, let alone effect any long-term changes to their practice. A study of longer duration might have allowed for a more comprehensive degree of change (Englert & Tarrant, 1995; Nielsen et al., 2008). While Khourey-Bowers et al. state that it is not the amount of time itself that allows for change, they do identify prolonged and profound participation of teachers in professional learning opportunities as being the start of initiating long-lasting change. Compounding the problem of the short period of time was the release of the revised language curriculum late in the study. I would theorize that a study of longer duration would have helped the participants to deepen their learning and to benefit from feedback and more discussion.

Resources. Resources encompass not only time and materials but also people. Access to appropriate and sufficient resources is essential in order for teachers to believe that they can successfully change their practices (Nielsen et al., 2008). With respect to material resources, the participants had a variety of useful resources at their disposal: the *First Steps Writing Developmental Continuum*, the school board's literacy binder, and several copies of rubrics which participants had accumulated from different sources. Additionally, they had access to human resources in the form of a board consultant who joined the group for a session at the end of the study. The one resource that was problematic was the language curriculum document. In the initial interviews, several of the participants indicated displeasure with the language curriculum; they found it to be vague and unhelpful. To further compound the issue, early on in the study, the participants became aware that the curriculum was in the process of being revised.

Snippets of the revised curriculum were brought forth to be used by the participants, and some of the participants were privy to knowledge about the revised curriculum which they willingly shared, but the final revisions were not available until the end of the study. Not being able to access the revised curriculum until the end of the study was problematic in that much of the discussion about assessment and evaluation and the development of the rubric was dependent on the curriculum expectations. At the end of the study, the participants themselves noted how much more knowledgeable they were about the curriculum because they had worked with it as well as they could, but their knowledge of the revised curriculum was superficial at best. Without a solid foundation in the revised curriculum, it was very difficult for the participants to embed that knowledge in their practice.

This group of participants did the best they could with the resources they had. Without a doubt, not having access to the appropriate curriculum document had a detrimental impact on the development of the rubric, as the participants vacillated between old and revised curriculum expectations. This uncertainty surrounding the rubric made it difficult for the participants to make changes to their practices. The assessment tool that the participants created, the rubric, was incomplete with respect to inclusion of criteria based on the revised curriculum, and thus, with the exception of the participants who tried using earlier renditions of the rubric, it was not practical for the participants to use the rubric in their classrooms.

Expectations. Expectations can be both internal and external. Internal expectations were driven by the participants who established a group goal as well as individual goals. There were no external expectations driven from the top down; this

learning experience was very much propelled from the bottom up. It is possible that weaknesses in the area of expectations were the greatest reason for the lack of change in behaviour. My observation is that the internal expectations were not designed to effect change in practice. With respect to external expectations, I am tentatively suggesting that having external expectations may provide some impetus for change.

The group expectation was to develop an assessment tool for writing of students in grades 4-8 that incorporated consistency and progression. I see the problem with this goal as its being too limited in its scope. While the goal was relevant for all the participants, it did not require them to reflect upon or shift their instructional beliefs. It was based on developing an assessment tool, but very little discussion revolved around the rubric as an effective assessment tool or the principles of effective assessment and evaluation. In hindsight, the group expectation lacked a connection between teacher learning and student achievement. The group-selected expectation focused on curriculum, not on student needs or achievement, which is a necessary ingredient to facilitate change (Nielsen et al., 2008).

That this learning experience was completely teacher-directed could also be indicative of the lack of change in the participants' teaching practices. It was assumed that the participants would implement changes to their assessment and evaluation practices, but in reality, there was no explicit expectation that they would do so, either by themselves or by administration. I raise this point somewhat hesitantly, not wanting to doubt that teachers are well able to change their instructional practices without being directed to do so, but fearing that external pressure to change practice may be the impetus needed. Studies taken by Khourey-Bowers et al. (2005) and Nielsen et al. (2008) saw

change occur through sustained and imposed learning initiatives in which there was an expectation of change in instructional practice. While Nielsen et al. noted that the external pressure did cause stress for the participants, those participants did make changes to their practice. My conjecture is that perhaps the measure of accountability provided some incentive to reflect upon and change practice. I would like to clarify that these studies did not claim that external expectations were the reason for change, but I believe that it bears consideration.

Culture of learning. In order for effective change to take place in teachers' instructional practice, a critical factor is the establishment of working conditions that are favourable to learning. The co-operative and cohesive culture of this group was for the most part favourable in establishing a positive culture of learning; however, it is possible that the lack of conflict also inhibited change. Furthermore, recent literature emphasizes sustained collaborative learning that is job-embedded as being required for change (Fullan, Hill, & Crevola, 2006). Neither of these two conditions was fully met during this study. While the study involved sustained collaborative learning, I would contend that the duration of the professional learning opportunity was not sufficient. The collaboration was job-embedded in that the focus of learning was relevant to the participants' needs and practices; however, it did not occur as part of the participants' work day. There is a third point I would consider as being relevant to the culture of learning in this case, and that is the physical environment of the collaborative initiative, since I believe it may have contributed in a minor way to the seemingly minimal impact on behaviour experienced by the participants.

The participants indicated how important they believed the makeup of the collaborative group to be in order for that group to work productively. They themselves consistently demonstrated cohesion, setting a tone of mutual respect and co-operation. To highlight this point, one of the participants revealed her initial concerns about presenting her ideas to the group but found her fears to be unfounded and instead was very pleased with how supportive the entire group was with one another. Many of the participants indicated that they thought the group would not have been productive if there had been some other personalities in the group. On the other hand, perhaps some diversity and conflict was what was needed to spark greater inquiry and reflection. Grossman et al. (2001) make it clear that out of conflict arises new learning. Diversity of the participants, too, can be beneficial to collaborative groups (Englert & Tarrant, 1995). This was a fairly homogenous group of participants, not only in their teaching assignments but also in their attitudes and behaviours.

Fullan et al. (2006) contend that learning must be job-embedded if teachers are expected to change their practices. This declaration is supported by Nielsen et al. (2008), who ascertained that professional learning must be connected to teachers' classrooms and instructional needs. One of the problems with the professional learning of this group was that it was not really job embedded insofar as the participants met on their own time, after school, twice a month for 6 months. While they were able to discuss and share ideas directly applicable to their own concerns, they did not have the opportunity to observe one another in their classrooms or to benefit from problems of practice as they arose. Because the learning happened outside of the school day, it is very possible that some of

the participants considered this work to be nothing more than an add-on to their already harried work days.

In order for there to be job-embedded professional learning, support of administration is essential. The impact of administrative support was negligible on the results of this study, but it is worth mentioning for the potential influence it could have in the future. While the principal was not involved in the study, he was aware of and supportive of the work of the participants, so much so that for the upcoming school year he agreed to build in time during the school day for collaborative teams to continue the work on assessment and evaluation started by the participants. Despite the fact that the participants had not accomplished what they set out to do during this study, the willingness of the principal to embed opportunities for professional learning and teamwork within the school day bodes well for future changes.

Because the learning took place outside of the school day and, for the most part, off school property, while it is not likely that the actual physical environment was a substantial factor in influencing learning and change, based on comments made by several of the participants, there may be some merit for its consideration. For the first seven meetings of this study, the participants met at an off-site location, a local restaurant where they could relax and eat dinner if they so chose. This location helped to establish an informal and comfortable atmosphere, but noise distractions and limited seating became problematic when the participants began to work on development of the rubric. In order to eliminate those problems, the participants decided to meet at the school, which they believed would be more conducive to productivity. Most of the participants indicated that they enjoyed the first locale for its informal ambience and felt that it served

its purpose to put them at ease, but they often struggled with the aforementioned inadequacies. In contrast, as one of the participants pointed out, by working at the school, they also had easy access to their own resources if needed. Several of the participants noted that they believed that the change in environment allowed them to work more effectively. It is a possibility that this should be taken into consideration when working with learning teams. If the meetings had taken place on site from the beginning of the study, the productivity of the group might have been greater, leading potentially to more significant change.

The fact that the participants were willing to meet on their own time for the purpose of collaborating about their teaching practice speaks volumes about the value of collaboration. While care must be taken to note that this willingness may not be transferable to the entire teaching population, it does indicate that there is a strong desire among teachers to share their knowledge and expertise with others and in turn to learn from the expertise of other teachers.

Impact of Collaboration

What came as an unexpected outcome of this study was the school-wide plan for the following school year for grade teams to collaborate on assessment and evaluation practices. This speaks to the importance and the potential power of a learning community. When Sandy and Chris shared what this group was working on with the administrator and other teachers, this prompted the administrator to plan for future school-wide collaboration opportunities based on the work of this professional learning community. Part of the purpose of the work of this group was to ensure that assessment and evaluation practices within the school would be more closely aligned and consistent.

Not only would this group continue with what they had started, but also the other teachers in the school would also become involved. In contrast with what Englert and Tarrant (1995) found about teachers not perceiving themselves as change agents, I do see members of this group as willing to accept the role of change agents within the school. This was a strong group of teachers, already perceived as leaders by other teachers in the school.

Implications

The findings of this study reveal the significance and some weaknesses of professional learning communities. While there was not as much obvious change in participants' behaviour as might have been anticipated by the end of the study, it should not be assumed that the results were unsatisfactory. Ultimately, the participants valued the process, and that is a notable result in itself. What became abundantly clear was the potential of a learning community for enacting school-wide change. Although the study results were limited by the size and scope of the study, there is much that can be learned about the power of learning communities and their role in educational reform.

Implications for Practice

The need for reform is a given if education now and in the future is to meet the needs of an ever-increasing number of low-performing students. Success of professional development in the form of workshops has been limited, and so we need to look elsewhere for an effective solution. The culture of teaching and learning has to change from being isolationist to one that is more collaborative. Fullan (2007) states that "significant educational change consists of changes in beliefs, teaching style, and materials, which can come about *only* through a process of personal development in a

social context" (p. 139). The potential impact of professional learning communities on educational change has not yet been fully tapped. The purpose of learning communities is to draw upon the cumulative knowledge and expertise of teachers as a means of changing and improving instructional practice. Grossman et al. (2001) attest that "the collective must serve as a training ground for individuals to think in new ways, to learn to listen for and try out new ways of knowing" (p. 975). It is not, however, such a simple matter as forming professional learning communities and expecting that change will come. It is essential to realize that professional learning communities are not new innovations to be adopted, but instead are the foundation of a new culture that needs to be cultivated (Fullan).

For the new culture to become a reality, first and foremost, teachers' working and learning conditions need to be restructured. Professional learning communities need to be embedded within teachers' everyday practice, learning must be linked to classroom practice, and learning should focus on using assessment to drive instruction or improved student curriculum (Fullan et al., 2006). Professional learning needs to happen on a daily basis (Fullan et al.), and it needs to occur at least partially within the framework of the teachers' work day. Learning that is framed within the context of the teachers' daily practice is critical if teachers are to value it. Teachers must be able to observe one another's instructional practices and to have the opportunity to debrief and reflect upon those experiences. Khourey-Bowers et al. (2005) articulate that for professional learning to promote effective teaching and learning, "[it] is best accomplished in a collegial atmosphere in which teachers share leadership and model collaborative inquiry" (p. 23).

Collaborative learning is not a course of action in which all teachers are well versed, as isolation has been the hallmark of education. Care must be taken in the development of learning communities, however. Putting a group of teachers together does not automatically create a learning community. The potential benefits that can be gained from learning communities may be undermined by disregard for authenticity and purpose. Grossman et al. (2001) offer four suggestions as the model for a professional learning community. First is the importance of establishing a group identity and norms for behaviour. The responsibility of the group is to work together to reach a common purpose; the voices of all group members need to be recognized and valued. Second, the group members must be aware of and able to deal with adversity and conflict within the group. When groups of people work together, conflict is bound to arise. When handled appropriately, conflict can even contribute to the growth of a community because it forces people to evaluate their stances and consider other options. The third feature of a learning community is the dedication to a common purpose that recognizes the connection between teacher learning and student learning. Group members must be cognizant of the collective goal and understand that they are working to improve student learning and not allow anything to deter them from that purpose. Finally, all group members must be committed to the learning and growth of all members of the community. The community is as strong as its weakest individual, and all members must be willing to accept the responsibility of mutual understanding and growth. The development of a community of learners cannot be undertaken thoughtlessly. A community of learners goes far beyond a group of teachers working together; care must

be taken to ensure that it is communities of learners that are being promoted and developed.

The outcome of a community of learners needs to be much more than just change for individual teachers. The changes need to be visualized beyond the classroom and individual teachers; changes should be school wide and system wide if sustainable change is to happen. One of the problems in achieving this goal is that teachers do not yet view themselves as change agents (Khourey-Bowers et al., 2005; Nielsen et al., 2008). They may be comfortable in making changes to their own practices, but they do not believe in their own ability to dictate widespread change. This sense of impotence is due in part to teachers' limited perceptions of their own influence. For too long, teachers have worked alone within the confines of their classroom walls, hesitant to share their own expertise. Who else, though, is better equipped to lead the charge to change? When teachers work in a community of learners, they learn to value their contributions as well as those of their peers. Communities of learners must understand that they are not only working toward changing their practice, but also they are working toward developing a standard of practice that can be adopted by all teachers.

A focus on assessment literacy must be part of the learning process. As we move away from assessment of learning to assessment for learning, learning communities are well suited to engage teachers in dialogue about effective instruction and assessment and evaluation. Teachers also need to have the opportunity to observe one another in practice. In terms of the research that was done for this study, a next step would be for teachers to use the rubric they developed to score student writing collectively. In doing so, they would develop consistency in assessment and evaluation practices as well as increase

their knowledge of instructional practices. Parr et al. (2007) found that collective assessment of student work enables teachers to deepen their content knowledge of writing as well as of assessment and evaluation. Fortunately, the Ministry of Education has begun to address the problem of assessment literacy. In the spring of 2006, at the end of this study, prior to the publication of the revised curriculum, in-services were provided to teachers for the purpose of training them in the revised curriculum. Additionally, in recent years, the Ministry of Education has published voluminous literature on assessment, among other topics, and has provided school boards with financial support for professional learning opportunities.

Changing the culture of learning will take the effort and commitment of teachers, principals, school boards, and policymakers (Fullan et al., 2006). As was evidenced by this research, it is difficult for teachers to invoke sustainable change by themselves. Change that happens as the result of what one learning community learns may not go beyond that community if the principal is not supportive. The gains that one school may make will stop there if the school board does not recognize the value of the learning community. A school board that uses systematic learning communities will flounder if the government does not endorse their efforts. What needs to happen in education is large-scale reform; it is not a matter of looking for learning and change on the part of a few teachers.

Implications for Theory

This study extends research undertaken by others regarding the change teachers experience as a result of collaboration and their perceptions of the effectiveness of collaboration as a means of professional learning. Killion's (2008b) KASAB model was

used as the foundation of this study to measure change in teacher behaviour. Findings from this research did not show significant change in participants' knowledge, attitude, skill, aspiration, and behaviour, but other studies have demonstrated significant change in those areas (Englert & Tarrant, 1995; Khourey-Bowers et al., 2005; Nielsen et al., 2008). Killion asserts that change in knowledge and skill is not sufficient to engender change in practice; it is transformational learning (change in attitude and aspiration) that will lead to change in practice. The participants in this study did not experience significant change in attitude and aspiration, nor did they experience significant change in their practice. Similarly, in their study, Lock and Munby (2000) found that an inability to change attitude resulted in a lack of change in behaviour. The difference between this study and Lock and Munby's study was that the attitudes of participants in this study were progressive and open to change. The results of both studies seemingly demonstrate the influence of change in attitude on change in behaviour. More study is needed to determine the strength of the connection among the five areas of change.

The participants of this study perceived collaboration to be an effective means of professional learning, regardless of the changes they made or did not make to their practices. They appreciated the opportunity to engage in professional discussion that went beyond immediate classroom concerns. Support from the principal was evident throughout the process, but the learning was very much driven by the needs and desires of the participants. While the purpose of professional learning communities is to improve educational practices through a collaborative venue, the direction of the professional learning community depends on whether you are talking to system leaders or teacher union leaders. In recent years, school boards have imposed professional learning

communities with a predetermined focus, often aimed toward improving large-scale assessment scores. Union leaders, however, advocate for teachers to take the initiative in directing the focus of their learning. Is one approach more valid than the other? The dichotomy of those two viewpoints speaks to the need for further research in this area.

Educational reform and teacher learning are intertwined. Professional learning is not focused just on developing knowledge and skills. It is about instituting long-standing change and enabling teachers themselves to become change agents. The findings of this study revealed the power of teachers to influence the future direction of professional learning within their own school. What remains to be seen is whether teachers are able to step into the role of change agents. Research shows that teachers have been able to make changes to their own practice but struggle with perceptions of their influence when it comes to effecting change beyond their own classrooms (Khourey-Bowers et al., 2005; Nielsen et al., 2008).

Assessment literacy was developed to a certain extent by the participants of this study. The participants increased their knowledge of the language curriculum and refined their skills in the development of an assessment tool; what they did not do was use data to drive their instruction. In the past 2 years, the school board for which these participants work has required its teachers to use assessment data for the purpose of planning for instruction, for discussion, and for reflection. Further study is required in this area to determine the development of assessment literacy.

Implications for Further Research

There are a number of areas in which further research might provide more conclusive results about the impact of collaboration on teachers' learning and practice.

One major shortcoming in this research was the length of time of the study. The inadequacy of the 6-month time frame is highlighted when compared to the 5-year study of Khourey-Bowers et al. (2005) and the 3-year study of Nielsen et al. (2008). The extended length of time of those studies allowed the participants sufficient time to learn about and to try new strategies, to engage in discussion with their colleagues, and to reflect upon their successes and failures. Participants in this study would have benefited from opportunities to practice using the collective assessment tool and to turn to other group members for feedback. Additional time would have also allowed the participants to bring in student samples of work to moderate assessment of that work, thus allowing them to build upon their assessment literacy.

Another limitation of this study was my discovery of the KASAB model after the data had been collected. Future research could specifically address and track all five types of change in both sets of interviews as well as through the meeting data. Specifically identifying each type of change during data collection would help to ensure rich and detailed data.

In the time that has passed since the data for this research were collected, the school board involved in this study imposed school-level learning communities with a focus on literacy improvement and, in particular, on development of assessment literacy. The work that was started with this group of participants has continued not only on a larger scale but also in a broader scope of learning about assessment and evaluation and changing instructional practices. This is an ideal opportunity to monitor the possibility of change not only in teachers' own KASAB but also change from the point of view of educational change.

Conclusion

The results of the data indicate that while there were some changes in the participants' KASAB, for a variety of reasons those changes were not as significant as might be expected. The change in knowledge and skills was not matched by change in attitude, aspiration, or behaviour, although one might argue that there was no need or even room for attitude and aspiration to change with this particular group of participants. A variety of factors combined to prevent any significant changes in participants' KASAB from occurring. In short, the length of time of this study was not sufficient to discern any significant change. The participants were still in the process of learning, and they did not have access to all applicable resources; therefore, they had not developed their own sense of efficacy to the point where they could move forward to focusing on how their learning could have an impact on student achievement. Expectations, too, were not designed to promote significant change in practices. While the participants benefited from the opportunity to share ideas and experiences through collaboration, the collaborative experience was not embedded meaningfully within their work days; instead, they came together on their own time, which might have caused them to distinguish between their instructional practice and what the group was doing. On a more positive note, the collaborative process was perceived by the participants to be very useful, and, in fact, at the initiative of some of the participants, future school-wide collaboration was planned to carry on the work on assessment and evaluation started by this group. This somewhat unexpected development bodes well for the future of collaboration as a means of achieving effective educational change.

References

Bainer, D. L., & Didham, C. (1994). Mentoring and other support behaviours in elementary schools. *Journal of Educational Research, 87*(4), 240-247.

Bakkenes, I., de Brabander, C., & Imants, J. (1999). Teacher isolation and communication network analysis in primary schools. *Educational Administration Quarterly, 35*(2), 166-202.

Ball, D. L. (1996). Teacher learning and the mathematics reforms - What we think we know and what we need to learn. *Phi Delta Kappan, 77*(7), 500-508.

Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey-Bass.

Bassey, M. (1999). *Case study research in educational settings*. Philadelphia: Open University Press.

Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan, 86*(1), 8-21.

Blackwell, R., Channell, J., & Williams, J. (2001). Teaching circles: A way forward for part-time teachers in higher education? *The International Journal for Academic Development, 6*(1), 40-53.

Bol, L., Stephenson, P. L., O'Connell, A. A., & Nunnery, J. A. (1998). Influence of experience, grade level, and subject area on teachers' assessment practices. *The Journal of Educational Research, 91*(6), 323-330.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3-15.

Butler, D. L., Novak Lauscher, H., Jarvis-Selinger, S., & Beckingham, B. (2004). Collaboration and self-regulation in teachers' professional development. *Teaching and Teacher Education, 20*, 435-455.

Cizek, G. J., Fitzgerald, S. M., & Rachor, R. E. (1996). Teachers' assessment practices: Preparation, isolation, and the kitchen sink. *Educational Assessment, 3*(2), 159-179.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education.

Daniel, L. G., & King, D. A. (1998). Knowledge and use of testing and measurement literacy of elementary and secondary teachers. *The Journal of Educational Research, 91*(6), 331-344.

DuFour, R. (2004). "What is a professional learning community?" *Educational Leadership, 61*(8), 6-11.

DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Bloomington, IN: National Educational Service.

Easton, L. B. (2008). From professional development to professional learning. *Phi Delta Kappan, 89*(10), 755-761.

Englert, C. S., & Tarrant, K. L. (1995). Creating collaborative cultures for educational change. *Remedial and Special Education, 16*(6), 325-337.

Expert Panel on Literacy and Numeracy Instruction for Students with Special Educaiton Needs. (2005). *Education for all: The report of the expert panel on literacy and numeracy instruction for students with special education needs, kindergarten to grade 6*. Toronto: Ontario Ministry of Education.

Expert Panel on Literacy in Ontario. (2004). *Literacy for learning: The report of the expert panel on literacy in grades 4 to 6 in Ontario*. Toronto: Ontario Ministry of Education.

Florio-Ruane, S., & Raphael, T. E. (2001). Reading lives: Learning about culture and literacy in teacher study groups. In C. M. Clark (Ed.), *Talking shop: Authentic conversation and teacher learning* (pp. 64-81). New York: Teachers College Press.

Fullan, M. (Ed.). (1995). *The limits and the potential of professional development*. New York: Teachers College Press.

Fullan, M. (1996). Professional culture and educational change. *School Psychology Review, 25*(4), 496-500.

Fullan, M. (2007). *The new meaning of educational change*. New York: Teachers College Press.

Fullan, M., Hill, P., & Crevola, C. (2006). *Breakthrough.* Thousand Oaks, CA: Corwin Press.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

Garmston, R., & Wellman, B. (1999). *The adaptive school: A sourcebook for developing collaborative groups*. Norwood, MA: Christopher-Gordon.

Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers College Record, 103*(6), 942-1012.

Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership, 59*(6), 45-51.

Guskey, T. R. (2003). What makes professional development effective? *Phi Delta Kappan, 84*(10), 748-750.

Guskey, T. R., & Huberman, M. (1995). *Professional development in education: New paradigms and practices*. New York: Teachers College Press.

Hall, G., & Hord, S. (2006). *Implementing change: Patterns, principles, and potholes*. Boston: Corwin Press.

Hannay, L., Wideman, R., & Seller, W. (2006). *Professional learning to reshape teaching*. Toronto, Canada: Elementary Teachers' Federation of Ontario.

Hargreaves, A. (1995). Development and desire: A postmodern perspective. In T. R. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 69-91). New York: Teachers College Press.

Hargreaves, A., & Fullan, M. (2000). Mentoring in the new millennium. *Theory into Practice, 39*(1), 50-57.

Hirsh, S. (2009). A new definition. *Journal of Staff Development, 30*(4), 10-11.

Huffman, D., & Kalnin, J. (2003). Collaborative inquiry to make data-based decisions in school. *Teaching and Teacher Education, 19*, 569-580.

Johnson, B. (2003). Teacher collaboration: Good for some, not so good for others. *Educational Studies, 29*(4), 337-350.

Joyce, B. (2004). How are professional learning communities created? History has a few messages. *Phi Delta Kappan, 86*(1),76-83.

Khourey-Bowers, C., Dinko, R. L., & Hart, R. G. (2005). Influence of a shared leadership model in creating a school culture of inquiry and collegiality. *Journal of Research in Science Teaching, 42*(1), 3-24.

Killion, J. (2008a). Apply knowledge of learning. *Teachers Teaching Teachers, 10*, 7-9.

Killion, J. (2008b). *Assessing impact: Evaluating staff development.* Thousand Oaks, CA: Corwin.

Killion, J. (2009). NSCD academy members explore new ways to learn about learning. *National Staff Development Council Blog.* Retrieved November 23, 2009 from www.nsdc.org/learningBlog/post.cfm/killion-academy

Lefever-Davis, S., Wilson, C., Moore, E., Kent, A., & Hopkins, S. (2003). Teacher study groups: A strategic approach to promoting students' literacy development. *Reading Teacher, 56*(8), 782-784.

Lieberman, A., & Miller, L. (1990). Teacher development in professional practice schools. *Teachers College Record, 92*(1), 105-122.

Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record, 91*(4), 509-537.

Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis, 15*(2), 129-151.

Lock, C., & Munby, H. (2000). Changing assessment practices in the classroom: A study of one teacher's challenge. *Alberta Journal of Educational Research, 46*(3), 267-279.

McNair, S., Bhargava, A., Adams, L., Edgerton, S., & Kypros, B. (2003). Teachers speak out on assessment practices. *Early Childhood Education Journal, 31*(1), 23-31.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco: Jossey-Bass.

Mertler, C. A. (2000). Assessing student performance: A descriptive study of the classroom assessment practices of Ohio teachers. *Education, 120*(1), 285-296.

Miles, M., & Huberman, (1994). *Qualitative data analysis: An expanded sourcebook.* Thousand Oaks, CA: Sage.

Nielsen, D. C., Barry, A. L., & Staab, P. T. (2008). Teachers' reflections of professional change during a literacy-reform initiative. *Teaching and Teacher Education, 24*(5), 1288-1303.

Niesz, T. (2007). Why teacher networks can work. *Phi Delta Kappan, 88*(8), 605-610.

Parr, J. M., Glasswell, K., & Aikman, M. (2007). Supporting teacher learning and informed practice in writing through assessment tools for teaching and learning. *Asia-Pacific Journal of Teacher Education, 35*(1), 69-87.

Perry, N. E., Walton, C., & Calder, K. (1999) Teachers developing assessments of early literacy: A community of practice project, *Teacher Education and Special Education, 22*(4) 218-233.

Popham, W. J. (2009). Assessment literacy for teachers: Faddish or fundamental? *Theory into Practice, 48*(1), 4-11.

Schmoker, M. (2004). Learning communities at the crossroads: Toward the best schools we've ever had. *Phi Delta Kappan, 86*(1), 84-88.

Smylie, M. A. (1995). Teacher learning in the workplace: Implications for school reform. In T. R. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 92-113). New York: Teachers College Press.

Stiggins, R. J. (1999). Teams. *Journal of Staff Development, 20*(3), 17-21.

Stiggins, R. J. (2004). New assessment beliefs for a new school mission. *Phi Delta Kappan, 86*(1), 21-27.

Swaffield, S., & Dudley, P. (2003). Wising up to assessment literacy. *Education Journal, 67*, 9.

Wenger, E. (n.d.). Communities of practice. *Etienne Wenger*. Retrieved July 9, 2009, from www.ewenger.com

Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating communities of practice.* Boston: Harvard Business School Press.

Wilson, S. M., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge: An examination of research on contemporary professional development. *Review of Research in Education, 24,* 173-209.

Winter, E., & McEachern, W. (2001). Dealing with educational change. *Education, 121*(4), 682-689.

Appendix A:

Information About Teaching Circles

What are Teaching Circles?

Teaching Circles are composed of small groups of teachers who meet on a regular basis, for a specified period of time, such as one school term, to collaborate on a specific topic or issue related to improving teaching and student learning. Teaching Circle participants select their own topic or join a Teaching Circle in which they are interested, and they direct their own learning. Teaching Circles are a nonevaluative and noncritical environment of mutual support.

What is the purpose of Teaching Circles?

Teaching Circles enable teachers to reflect on and improve their own practices through the exchange of ideas and expertise. Teaching Circles also give teachers the opportunity to talk with peers professionally and provide mutual support in a nonthreatening environment. Teachers involved in Teaching Circles direct their own learning in an effort to learn new ideas, to develop collegiality, and to build a sense of community. Individual members of the Teaching Circle are responsible for implementing at least one new or improved strategy that they have learned in their own classrooms.

Guidelines for using Teaching Circles

Teaching Circles are composed of small groups of teachers, usually composed of 4-10 participants. The Circles may be made up of single- or cross-disciplinary groups. The time frame is specific, often the duration of a school term or year. The Circles convene at least 4-5 times. The meetings are generally informal discussions, but tend to be more productive if a facilitator is appointed to set an agenda and ensure that progress is made. Members of each Teaching Circle determine the topic or issue they would like to explore. A group goal as well as individual goals are set at the initial meeting. At the conclusion of the Teaching Circle, the group members evaluate the success of the Teaching Circle in attaining their goals. The group produces a written document summarizing their accomplishments. The Teaching Circle concludes with a celebration.

Roles and Responsibilities of the Participants

Section 1.01

All Teaching Circle members are expected to attend all meetings, including the final celebration, to the best of their abilities. Each member should help to establish the Circle's overall goal and should also develop his or her own individual goals. Participation in group discussions is expected. Group members will be expected to complete and submit reflection logs and assessment logs. The group will be responsible for preparing written documentation of their accomplishment. Individuals may be asked to take on additional roles in the Teaching Circle, such as leadership or administration tasks.

Appendix B:

Observation Protocol

The Circle of Teaching: Reculturing Assessment Practices

Date		
Location		
Time		
Present		
Absent		
	Observations	Reflections
Artifacts		
Topics for discussion		
Questions, problems, concerns		
Assessment strategies discussed		
Strategies implemented		

Assessment strategies rejected		
Obstacles		
Problem resolution		
Decisions made		
Alignment of strategies		
Assessment vocabulary		
Participant engagement		

Appendix C:

Researcher Reflections

Week of:_____

Data Collection	Reflections
Interviews	
Surveys	
Assessment Logs	
Reflections	
Artifacts	
Evaluation	
Meetings	Reflections
Format	
Participation	
Discussion	
Concerns	
Highlights	
Progress	
General	Reflections

Data Analysis	Reflections				
Participants					

Appendix D:

Teaching Circle Meeting Minutes

Date of meeting	
Location of meeting	
Duration of meeting	
Members present	
Members absent	
Housekeeping items	
This week's topic and discussion	
Items for next meeting	

Appendix E:

Assessment Survey

Please indicate your use of the following assessment strategies for the purposes of evaluating student writing.

Observation	*never*	*occasionally*	*often*	*always*
Checklists	*never*	*occasionally*	*often*	*always*
Student journals	*never*	*occasionally*	*often*	*always*
Tests and quizzes	*never*	*occasionally*	*often*	*always*
Rubrics	*never*	*occasionally*	*often*	*always*
Conferences	*never*	*occasionally*	*often*	*always*
Student self-assessment	*never*	*occasionally*	*often*	*always*
Peer assessment	*never*	*occasionally*	*often*	*always*
Student Portfolios	*never*	*occasionally*	*often*	*always*
Other (please identify):				
_____	*never*	*occasionally*	*often*	*always*
_____	*never*	*occasionally*	*often*	*always*

How would you describe your assessment practices at this time? Place yourself on the line.

Formative----------*Summative*

Formative: The teacher regularly assesses the development of students' literacy skills and uses this information to adjust instruction and programming to meet the students' changing needs.

Summative: After instruction and opportunities to practise, students demonstrate what they know and can do independently. The assessment sums up the students' cumulative learning and their ability to apply it in a particular context at a point in time.

(definitions taken from: *Literacy for Learning: The Report of the Expert Panel on Literacy in Grades 4 to 6 in Ontario, 2004*)

Appendix F:

Assessment Log & Reflections

Date:_____

What types of assessment strategies did you use during the last two weeks?

_____

_____

What are your preferred methods of assessment?

_____

_____

Did you try any new assessment strategies? If so, which one(s)?

_____

_____

How do you feel about the above-mentioned assessment strategies?

Are your assessment practices changing? If so, how?

Please add any additional thoughts you have about your assessment practices:

Appendix G:

Teaching Circle Evaluation

Do you feel that the number of your Teaching Circle meetings was sufficient? Why or why not?

How well did your circle achieve the group goal?

How well did you achieve your individual goal?

Identify the strengths of your Teaching Circle:

How could your Teaching Circle have been more effective?

How has your participation in a teacher study group affected your knowledge about assessment?

How have your assessment practices changed as a result of your participation in the Teaching Circle?

Would you participate in another Teaching Circle? Why or why not?

Appendix H:

Teaching Circle Framework

Topic of Discussion
- Assessment in Writing

Main Focus
- Development of effective assessment practices for student writing in Grades 4-8

Group Goal
(chosen by the group—what does the group hope to gain)

_____

_____

Individual Goals
(Individual group members select personal goals—to be completed on separate page)
- I want to improve . . .
- I need to modify/change . . . in order to improve student achievement

Final Written Product
(decided upon by the group—a culminating product that will showcase group's efforts)

_____

Meeting Dates & Times

January		
February		
March		
April		
May		
June		

Final Celebration _____

Meeting location _____

Group norms
- Attend all meetings
- Arrive on time
- Conclude on time
- Participate in discussions

No interrupting
Respect confidentiality of meetings
Be respectful of others' contributions

Leadership

- No leader (very informal, group members share responsibility for bringing in material for discussion)
- Rotating leader (group members take turns facilitating discussion, preparing for the meeting)
- Designated leader (one member organizes meetings, selects topics, and facilitates discussion)

Responsibilities of the Facilitator (Leader)

- Prepare agenda for meeting
- Chair the discussion
- Begin and end meeting on time
- Write up minutes for the meetings

Responsibilities of the Researcher

- Maintain contact with the group members
- Keep a formal record of each meeting (who attended, summary of meeting, direction for next meeting)

Responsibilities of the Group Members

- Attend all meetings including the final Teaching Circle Celebration
- Arrive on time for meetings
- Help to select the circle's goal and objectives
- Set a personal goal
- Contribute to discussions
- Contribute to completion of final product
- Complete and submit reflections, assessment log, & survey
- Complete an evaluation of the Teaching Circle sessions

Meeting Format

- Guided discussion (agenda is established ahead of time; group members come prepared to meeting to discuss a particular topic)
- Ask the expert (an "expert" is invited to the meeting to share his/her thoughts on a topic)
- Progress reports (group members discuss what they have tried in their classrooms)
- Peer tutoring (group members, in partners, learn about a topic prior to the meeting and present it)
- General discussion (no preset agenda; group members bring topics of interest to the meeting)

Final Celebration

- Ask for input from group members: dinner out at a restaurant, pot-luck at a house, etc.

Appendix I:

Teaching Circle – Initial Meeting

Prior to the meeting

- Facilitator contacts potential group members
- Facilitator arranges the initial meeting—date, time, and place

Agenda for the Initial Teaching Circle Meeting

- Introduce and discuss concept of Teaching Circles
  - Address questions and concerns
- Review Teaching Circle Framework; modify to suit group's needs
  - As a group, review and reach consensus on issue(s) related to topic (assessing writing in language arts)
  - Decide on group goal and objectives
  - Ask participants to decide upon an individual goal for next meeting
  - Decide upon final product
  - Determine desired number of meetings, dates, times, member availability
  - Discuss and modify group norms
  - Decide on leadership (permanent, rotating, none, etc.)
  - Review responsibilities
  - Decide upon meeting format of future meetings
  - Discuss Teaching Circle evaluation and celebration
- Article on Assessment (if there is time)
  - Swaffield, S. & Dudley, P. (2003) Wising up to assessment literacy. *Education Journal*, 67. p. 9.
- Wrap-up
  - Address final questions, comments, concerns
  - Ask group members to decide on a personal goal—to be brought to next meeting
  - Complete a contact list
  - Set agenda for the next meeting

Final Notes

- Facilitator keeps formal record of meeting: who attended, summary of meeting, next meeting

Appendix J:

Teaching Circle Meeting Organization

Initial Meeting

- See "Teaching Circle: Initial Meeting"

Subsequent Meetings

- Facilitator sets agenda for each meeting
  - Sends it to participants ahead of time
- Possible agenda format:
  - housekeeping items
  - informal discussion
  - review of previous discussions
  - scheduled topic
  - look ahead
- Once a month, reflective logs need to be completed and submitted
- Preparation of final written product

Final Meeting

- Presentation of written product
- Evaluation of effectiveness of Teaching Circle
- Celebration

Appendix K:

Teaching Circle Goals and Objectives

Date: _____

Main Focus: The group will select a specific topic or issue that they would like to address

_____

Goal Statement: Describe the desired outcome of the Teaching Circle

_____

_____

Objectives: Identify a number of actions that the group will implement in order to meet the goal

Appendix L:

Teaching Circle Individual Goal

Teaching Circle Participant: _____

Goal: Select an individual goal with respect to improving your own teaching or learning that you hope to achieve as a result of participating in the Teaching Circle

_____

_____

Measurement of Success: Explain how you will determine whether or not you have achieved your goal (objectives, activities, use of resources, time frame)

Appendix M:

Teaching Circle Task Timeline

	January	February	March	April	May	June
Initial Interview						
Assessment Survey						
Group Goals						
Individual Goal						
Assessment Log						
Teaching Circle Evaluation						
Final Interview						

Appendix N:

Interview Protocol

The Circle of Teaching: Reculturing Assessment Practices

Time of Interview:
Date:
Place:
Interviewer:
Interviewee:

The purpose of this study is to examine how collaborative teacher study groups develop effective assessment practices in the delivery of a language arts program.

Data will be collected from participants of the Teaching Circle, and will consist of responses to interview questions, written documentation, and observational notes taken by the researcher during the Teaching Circle meetings.

This interview will be tape recorded and later transcribed. Confidentiality of the participants will be protected through use of pseudonyms, and all data will be destroyed at conclusion of this study.

This interview should take approximately 30-60 minutes to complete.

Thank you for your participation in this interview and in this study.

Appendix O:

Initial Interview: Guiding Questions

Warm-up Questions

- How often do you collaborate with other teachers?
- Have you ever collaborated with a group of teachers before? If so, for what purpose?
- What assessment strategies do you currently use?
- What are your preferred assessment strategies? Why? What assessment strategies don't you use? Why not?

In a profession such as teaching where isolation is the norm, collaboration among teachers is not generally encouraged, yet there are numerous benefits to collaboration.

- What do you think are the benefits to collaboration?
- What are your concerns regarding collaboration? What would prevent you from collaborating? What do you believe are the main obstacles to collaboration?
- What role do you feel collaboration between teachers plays in improving teaching practices? Explain.

I'd like to focus on assessment of writing. Teachers may struggle with assessing student writing. The workload is heavy, the assessment can be very subjective, there is rarely continuity from one teacher to the next, and often there is little direction from administration.

- What are your perceptions of the differences between assessment and evaluation?
- What are your beliefs about assessment (of student writing) in general?
- How do you feel about your current assessment practices? What changes, if any, would you like to make to your assessment practices? What would you like to share?
- How do you keep your assessment practices current? How willing are you to update your assessment practices?
- What do you know about the assessment practices of your colleagues? Do you ever collaborate on assessment practices?
- What impact do you think the Teaching Circle process might have on your assessment practices?

A teaching circle is a collaborative process that encourages teachers to discuss and improve teaching practices. For this study, you will be collaborating with peers in order to examine your assessment practices.

- What do you hope to gain from participating in the teaching circle? What concerns do you have?
- How do you foresee this type of collaborative experience as affecting your own assessment practices?
- How do you foresee this type of collaborative experience as affecting assessment practices of other teachers in the school?

Appendix P:

Final Interview: Guiding Questions

Warm-up Questions

- Did you enjoy the Teaching Circle experience? Why or why not?

You have now spent six months participating in a collaborative venture with some of your peers.

- What benefits from collaboration did you experience? Any negatives?
- Would you collaborate with peers again? Why or why not?
- Have you changed how you feel about the role collaboration plays in improving teaching practices? Explain.
- What impact do you think this collaborative experience might have on the school?

In your Teaching Circle meetings, you spent a fair amount of time discussing assessment and assessment practices, yours and your colleagues'. I'd like to discuss changes that you may have implemented in your assessment practices.

- Have your perceptions of the differences between assessment and evaluation changed? If so, how?
- Have you changed your beliefs about assessment of student writing?
- How do you feel about your assessment practices at this point?
- Have you learned anything new about assessment practices? What? How?
- Have you changed your assessment practices since January? How so?
- How has your knowledge of your colleagues' assessment practices changed?
- Have you and your colleagues developed common assessment practices? How important do you think it is for teachers to have common assessment practices?

Now that you have experienced it, I'd like to discuss your thoughts on the effectiveness of a Teaching Circle as a form of collaboration.

- How did this collaborative experience contribute to your knowledge about assessment practices? How has this collaborative experience affected your assessment practices?
- What did you gain, if anything from participating in the teaching circle? What difficulties did you have?
- How do you think this collaborative experience has affected assessment practices of other teachers in the school?
- What impact do you think this experience might have on school-wide assessment practices?
- Would you participate in a Teaching Circle again? Why or why not?
- Do you have any suggestions for ways to improve Teaching Circles?
- Would this experience be beneficial for other teachers? Do you feel that Teaching Circles are an effective means of encouraging collaboration among teachers?
- Do you feel that collaboration among teachers cultivates professional development and growth? Explain.

Appendix Q:

Letter of Clearance

Brock University

Research Services
reb@brocku.ca

St. Catharines, Ontario
Canada L2S 3A1

Telephone (905) 688-5550 ext 3035
fax (905) 688-1748

DATE: **September 15, 2005**

FROM: Linda Rose-Krasnor, Chair
Research Ethics Board (REB)

TO: Joe Engemann, Education
Michelle HUDON

FILE: **05-026 HUDON**

TITLE: **Mentors in Action: Constructing a Collaborative Culture in Teaching**

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: **Accepted as clarified.**

This project has received ethics clearance for the period of September 15, 2005 to January 31, 2006 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. ***The study may now proceed.***

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to http://www.brocku.ca/researchservices/forms to complete the appropriate form **Revision or Modification to an Ongoing Application.**

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council. Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form ***Continuing Review/Final Report*** is required.

Please quote your REB file number on all future correspondence.

LRK/bb